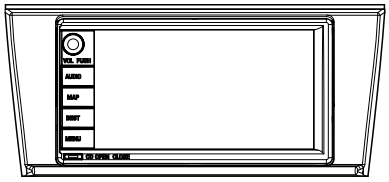
Pioneer sound.vision.soul

Service Manual

FORD



AVX-MG2027ZF/XN/UC

ORDER NO.
CRT2871

RECEIVER ASSY WITH NAVIGATION DISPLAY
AVX-MG2027ZF XN/UC

RECEIVER ASSY WITH NAVIGATION DISPLAY
AVX-MG2127ZF XN/UC

RECEIVER ASSY WITH NAVIGATION DISPLAY
AVX-MG2227ZF XN/UC

RECEIVER ASSY WITH NAVIGATION DISPLAY
AVX-MG2327ZF XN/UC

This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech.Module	Remarks
CX-951	CRT2872	G2	CD Mech. module:Circuit Description, Mech.Description, Disassembly

COMPACT disc DIGITAL AUDIO

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

K-ZZD.SEPT. 2002.printed in Japan

● CD Player Service Precautions

1. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
2. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment shorting-solder by referring to "the DISASSEMBLY" on page 116.
3. After replacing the pickup unit, be sure to check the grating. (See p.105.)

VEHICLE	PRODUCED AFTER	OEM PARTS No.	ID No.	PIONEER MODEL No.
LINCOLN LS	November 2002	3W4T-18K931-A1	•••••	AVX-MG2027ZF/XN/UC
LINCOLN TOWNCAR	December 2002	3W1T-18C985-AF	•••••	AVX-MG2127ZF/XN/UC
LINCOLN NAVIGATOR	February 2003	3L7T-18C985-AD	•••••	AVX-MG2227ZF/XN/UC
LINCOLN AVIATOR	October 2002	3C5T-18C985	•••••	AVX-MG2327ZF/XN/UC

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

CONTENTS

1. SPECIFICATIONS

General

Power source . . . . . 14.4V(10.5V-16.0V allowable) DC
Grounding system . . . . . Negative type
Backup current. . . . . 3mA or less
Dimensions(AVX-MG2027ZF) .246(W) x112(H) x188(D)mm
(AVX-MG2127ZF) 191(W) x109(H) x185(D)mm
(AVX-MG2227ZF) 201(W) x109(H) x183(D)mm
(AVX-MG2327ZF) 201(W) x109(H) x183(D)mm
Weight 2.7kg

CD player

System. . . . . Compact disc audio system
Usable discs . . . . . Compact disc
Signal format. . . . . Sampling frequency : 44.1kHz
. . . . . Number of quantization : 16;linear
S/N. . . . . 75dB or more
Distortion . . . . . 0.1% or less

FM tuner

Frequency . . . . . 87.75, 87.9–107.9 MHz
S/N. . . . . 58dB or more
Distortion . . . . . 1.5% or less
IF interference . . . . . 95dB or more
Image interference. . . . . 45dB or more
Stereo Separation . . . . . 25dB or more(400Hz)

AM tuner

Frequency . . . . . 530–1710 kHz
S/N 20dB usable sensibility . . . . . 33dBµ ± 6dB
S/N. . . . . 50dB +10dB, -6dB
Distortion . . . . . 1.0% or less
IF interference . . . . . 75dB or more
Image interference. . . . . 60dB or more

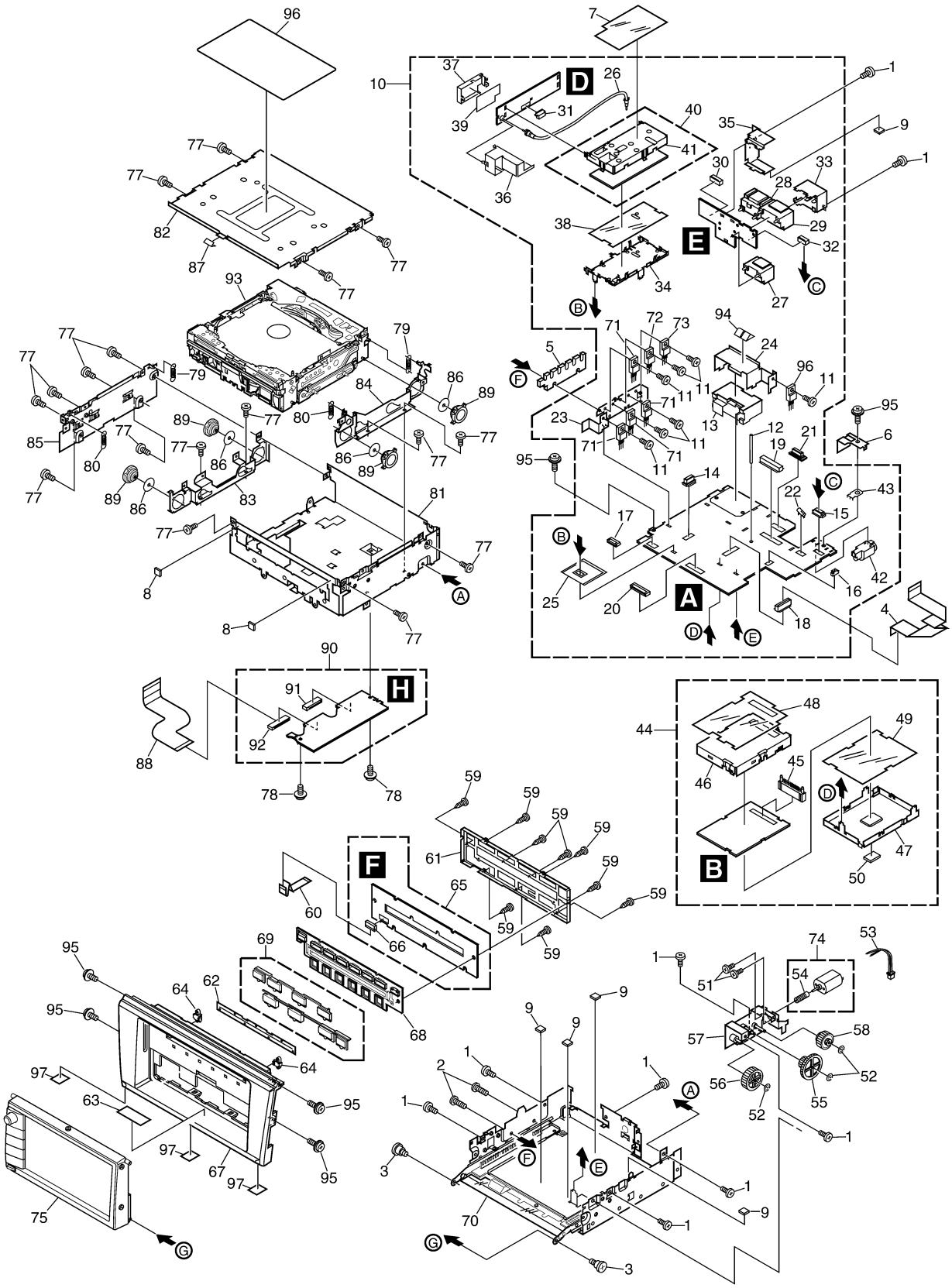
Display

Screen size/Aspect ratio . . . . . 6.5 inch wide/16:9
(effective display area). . . . . 143.4 x 79.3 mm
Pixels . . . . . 93,600(400 x 234)
Sub pixels . . . . . 280,800(1200 x 234)
Type . . . . . TFT active matrix
Color system. . . . . NTSC compatible

2. EXPLODED VIEWS AND PARTS LIST

*NOTES : • Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*
• Screw adjacent to ▽ mark on the product are used for disassembly.
• For the applying amount of lobricants or glue, follow the instructions in this manual.
(In the case of no amount instructions,apply as you think it appropriate.)

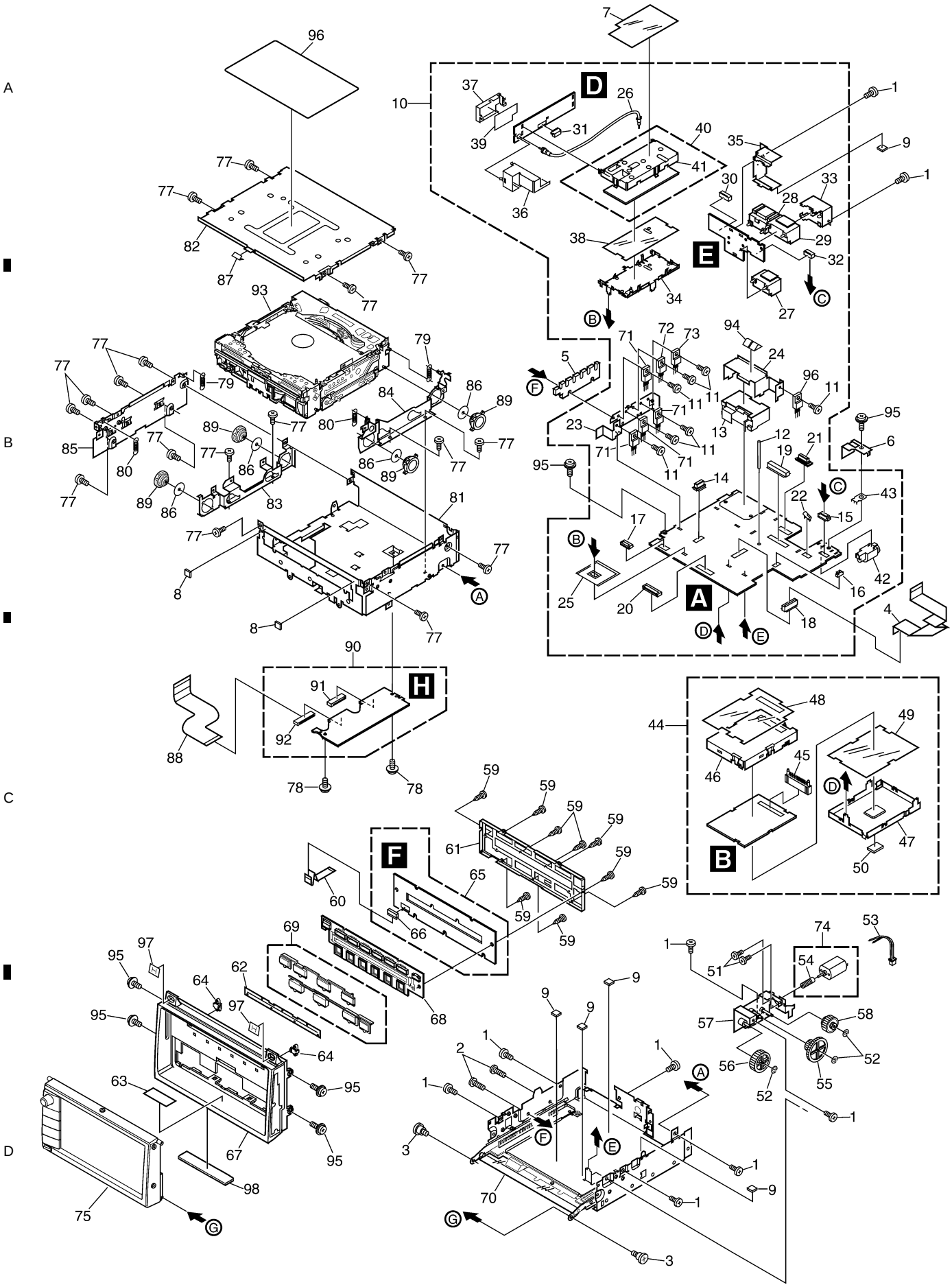
2.1 EXTERIOR(1)(AVX-MG2027ZF)



EXTERIOR(1)(AVX-MG2027ZF) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BMZ26P040FMC
	2	Screw	BMZ26P080FMC
	3	Screw(M2x2)	CBA1437
	4	Connector	CDE6618
	5	Heat Sink	CNC9449
	6	Shield	CNC9995
	7	Insulator	CNM7884
	8	Spacer	CNM7885
	9	Cushion	CNM7904
	10	Tuner Audio Unit	CWM7798
	11	Screw(M2.6x6)	CBA1014
	12	Clamper	CEF1007
	13	Connector(CN901)	CKM1349
	14	Connector(CN404)	CKS2811
	15	Connector(CN904)	CKS2811
	16	Connector(CN905)	CKS3124
	17	Connector(CN751)	CKS3810
	18	Connector(CN907)	CKS3859
	19	Connector(CN551)	CKS3982
	20	Connector(CN771)	CKS4052
	21	Connector(CN906)	CKS4065
	22	Connector(CN403)	CKX1044
	23	Holder	CNC9439
	24	Holder	CNC9440
	25	Shield	CNM7725
	26	Connector	CDH1311
	27	Connector(CN2802)	CKM1346
	28	Connector(CN2803)	CKM1347
	29	Connector(CN2804)	CKM1348
	30	Connector(CN2801)	CKS4066
	31	Connector(CN1402)	CKS4515
	32	Connector(CN2805)	CKS4515
	33	Holder	CNC9441
	34	Holder	CNC9442
	35	Holder	CNC9599
	36	Shield	CND1151
	37	Shield	CND1152
	38	Insulator	CNM7291
	39	Insulator	CNM7860
	40	FM/AM Tuner Unit	CWE1561
	41	Holder	CNC8855
	42	Antenna Jack(CN401)	HKX1054
	43	Terminal(CN402)	VNF1084
	44	DSP Unit	CWM7805
	45	Connector(CN1001)	CKS3981
	46	Shield	CNC9444
	47	Shield	CNC9445
	48	Insulator	CNM7289
	49	Insulator	CNM7290
	50	Conductor	CNM7728
	51	Screw	BMZ20P025FMC
	52	Washer	CBF1039
	53	Connector	CDE6704
	54	Gear	CNV5296
	55	Gear	CNV5297
	56	Gear	CNV5298
	57	Holder Unit	CXB7342
	58	Torque Limiter Unit	CXB8742
	59	Screw	BPZ20P060FMC
	60	Connector	CDE6619
	61	Holder	CNC9435
	62	Cover	CNM7367
	63	Cushion	CNM7905
	64	Lighting Conductor	CNV6802
	65	Panel PCB Unit	CWM7801
	66	Connector(CN1801)	CKS3965
	67	Panel Unit	CXB7756
	68	Housing Unit	CXB9194
	69	Button Unit	CXB9373
	70	Chassis Frame Assy	CXB7760
	71	Transistor(Q351,751,905,909,913)	2SB1185
	72	Transistor(Q902)	2SD2353
	73	Transistor(Q912)	2SB1299
	74	Motor Unit(M901)	CXC1191
*	75	Grille Assy	CXB7351
	76	•••••	
	77	Screw	BMZ26P040FMC
	78	Screw(M2x2.5)	CBA1076
	79	Spring(Black)	CBH2482
	80	Spring(Silver)	CBH2481
	81	Chassis	CNA2414
	82	Case	CNB2758
	83	Bracket	CNC9443
	84	Bracket	CNC9601
	85	Holder	CNC9612
	86	Sheet	CNM5981
	87	Sheet	CNM7731
	88	Flexible PCB	CNP6438
	89	Damper	CNV6608
	90	Control Unit(G2F)	CWX2589
	91	Connector(CN601)	CKS1956
	92	Connector(CN101)	CKS4512
	93	Service Mechanism Unit(G2AVX)	CXX1657
	94	Stick Finger	DNB1092
	95	Screw	IMS26P050FMC
	96	Label	CRW1462
	97	Sheet	CNM8173

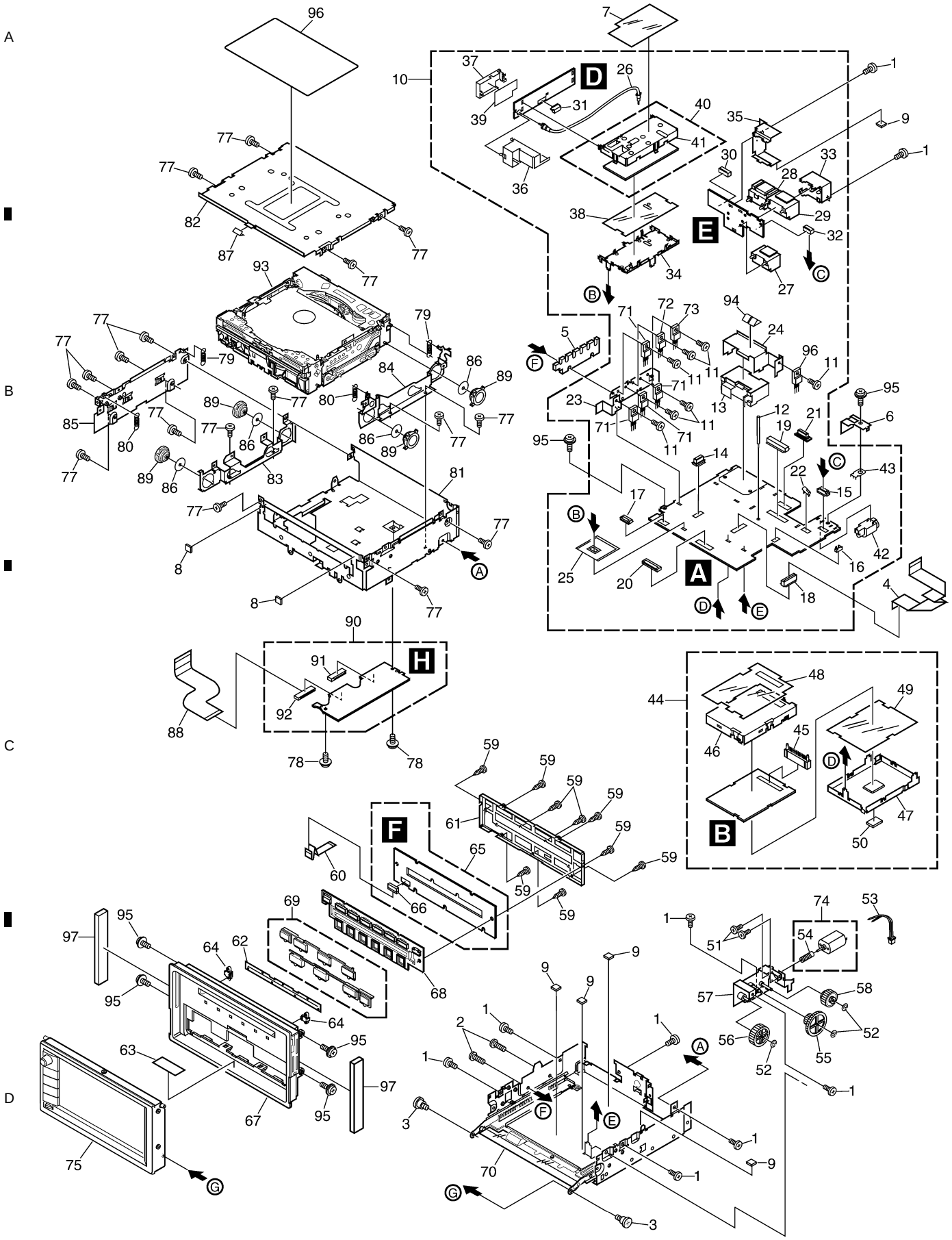
2.2 EXTERIOR(1)(AVX-MG2127ZF)



EXTERIOR(1)(AVX-MG2127ZF) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BMZ26P040FMC
	2	Screw	BMZ26P080FMC
	3	Screw(M2x2)	CBA1437
	4	Connector	CDE6618
	5	Heat Sink	CNC9449
	6	Shield	CNC9995
	7	Insulator	CNM7884
	8	Spacer	CNM7885
	9	Cushion	CNM7904
	10	Tuner Audio Unit	CWM7804
	11	Screw(M2.6x6)	CBA1014
	12	Clamper	CEF1007
	13	Connector(CN901)	CKM1349
	14	Connector(CN404)	CKS2811
	15	Connector(CN904)	CKS2811
	16	Connector(CN905)	CKS3124
	17	Connector(CN751)	CKS3810
	18	Connector(CN907)	CKS3859
	19	Connector(CN551)	CKS3982
	20	Connector(CN771)	CKS4052
	21	Connector(CN906)	CKS4065
	22	Connector(CN403)	CKX1044
	23	Holder	CNC9439
	24	Holder	CNC9440
	25	Shield	CNM7725
	26	Connector	CDH1311
	27	Connector(CN2802)	CKM1346
	28	Connector(CN2803)	CKM1347
	29	Connector(CN2804)	CKM1348
	30	Connector(CN2801)	CKS4066
	31	Connector(CN1402)	CKS4515
	32	Connector(CN2805)	CKS4515
	33	Holder	CNC9441
	34	Holder	CNC9442
	35	Holder	CNC9599
	36	Shield	CND1151
	37	Shield	CND1152
	38	Insulator	CNM7291
	39	Insulator	CNM7860
	40	FM/AM Tuner Unit	CWE1561
	41	Holder	CNC8855
	42	Antenna Jack(CN401)	HKX1054
	43	Terminal(CN402)	VNF1084
	44	DSP Unit	CWM7805
	45	Connector(CN1001)	CKS3981
	46	Shield	CNC9444
	47	Shield	CNC9445
	48	Insulator	CNM7289
	49	Insulator	CNM7290
	50	Conductor	CNM7728
	51	Screw	BMZ20P025FMC
	52	Washer	CBF1039
	53	Connector	CDE6704
	54	Gear	CNV5296
	55	Gear	CNV5297
	56	Gear	CNV5298
	57	Holder Unit	CXB7342
	58	Torque Limiter Unit	CXB8742
	59	Screw	BPZ20P060FMC
	60	Connector	CDE6619
	61	Holder	CNC9435
	62	Cover	CNM7367
	63	Cushion	CNM7905
	64	Lighting Conductor	CNV6802
	65	Panel PCB Unit	CWM7801
	66	Connector(CN1801)	CKS3965
	67	Panel Unit	CXB7757
	68	Housing Unit	CXB9194
	69	Button Unit	CXB9374
	70	Chassis Frame Assy	CXB7763
	71	Transistor(Q351,751,905,909,913)	2SB1185
	72	Transistor(Q902)	2SD2353
	73	Transistor(Q912)	2SB1299
	74	Motor Unit(M901)	CXC1191
*	75	Grille Assy	CXB7380
	76	•••••	
	77	Screw	BMZ26P040FMC
	78	Screw(M2x2.5)	CBA1076
	79	Spring(Black)	CBH2482
	80	Spring(Silver)	CBH2481
	81	Chassis	CNA2414
	82	Case	CNB2758
	83	Bracket	CNC9443
	84	Bracket	CNC9453
	85	Holder	CNC9438
	86	Sheet	CNM5981
	87	Sheet	CNM7731
	88	Flexible PCB	CNP6438
	89	Damper	CNV6608
	90	Control Unit(G2F)	CWX2589
	91	Connector(CN601)	CKS1956
	92	Connector(CN101)	CKS4512
	93	Service Mechanism Unit(G2AVX)	CXX1657
	94	Stick Finger	DNB1092
	95	Screw	IMS26P050FMC
	96	Label	CRW1462
	97	Insulator	CNM8116
	98	Insulator	CNM8126

2.3 EXTERIOR(1)(AVX-MG2227ZF,AVX-MG2327ZF)



(1)EXTERIOR(1)(AVX-MG2227ZFAVX-MG2327ZF) SECTION PARTS LIST

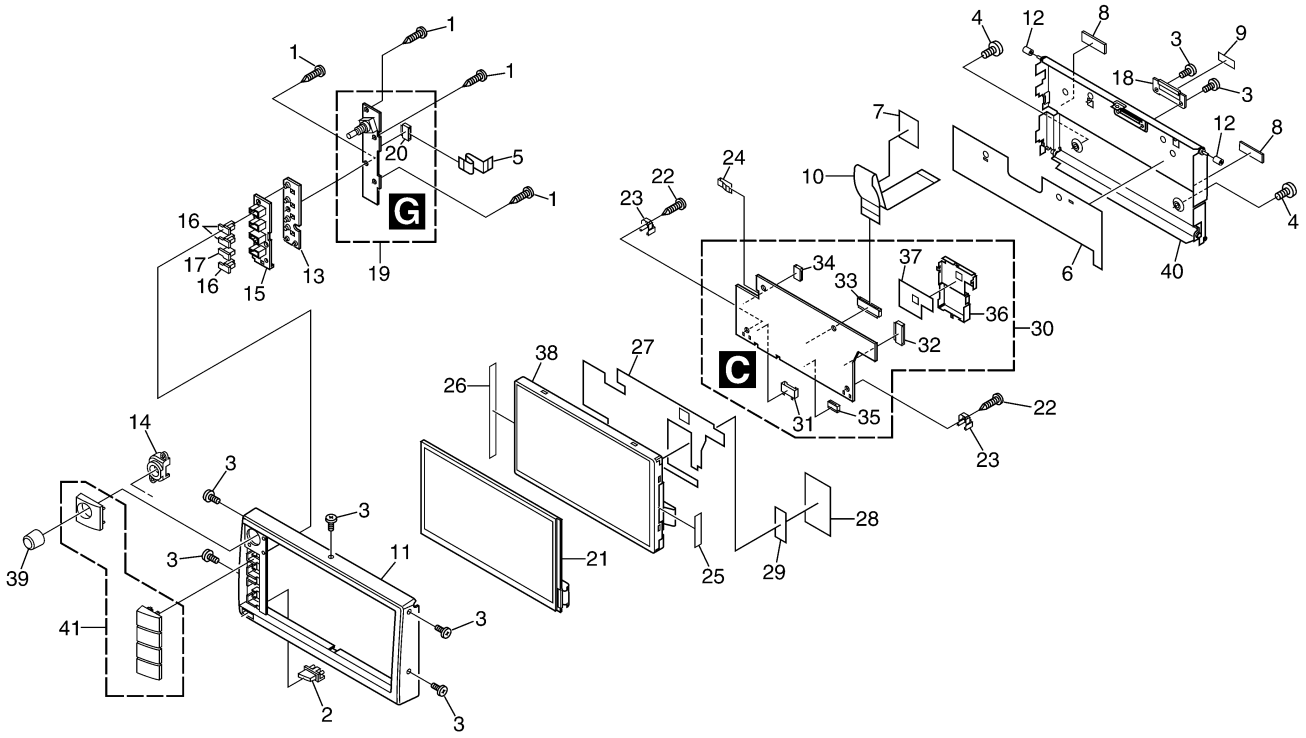
Mark	No.	Description	Part No.
	1	Screw	BMZ26P040FMC
	2	Screw	BMZ26P080FMC
	3	Screw(M2x2)	CBA1437
	4	Connector	CDE6618
	5	Heat Sink	CNC9449
	6	Shield	CNC9995
	7	Insulator	CNM7884
	8	Spacer	CNM7885
	9	Cushion	CNM7904
	10	Tuner Audio Unit	See Contrast table(2)
	11	Screw(M2.6x6)	CBA1014
	12	Clamper	CEF1007
	13	Connector(CN901)	CKM1349
	14	Connector(CN404)	CKS2811
	15	Connector(CN904)	CKS2811
	16	Connector(CN905)	CKS3124
	17	Connector(CN751)	CKS3810
	18	Connector(CN907)	CKS3859
	19	Connector(CN551)	CKS3982
	20	Connector(CN771)	CKS4052
	21	Connector(CN906)	CKS4065
	22	Connector(CN403)	CKX1044
	23	Holder	CNC9439
	24	Holder	CNC9440
	25	Shield	CNM7725
	26	Connector	CDH1311
	27	Connector(CN2802)	CKM1346
	28	Connector(CN2803)	CKM1347
	29	Connector(CN2804)	CKM1348
	30	Connector(CN2801)	CKS4066
	31	Connector(CN1402)	CKS4515
	32	Connector(CN2805)	CKS4515
	33	Holder	CNC9441
	34	Holder	CNC9442
	35	Holder	CNC9599
	36	Shield	CND1151
	37	Shield	CND1152
	38	Insulator	CNM7291
	39	Insulator	CNM7860
	40	FM/AM Tuner Unit	CWE1561
	41	Holder	CNC8855
	42	Antenna Jack(CN401)	HKX1054
	43	Terminal(CN402)	VNF1084
	44	DSP Unit	CWM7805
	45	Connector(CN1001)	CKS3981
	46	Shield	CNC9444
	47	Shield	CNC9445
	48	Insulator	CNM7289
	49	Insulator	CNM7290
	50	Conductor	CNM7728
	51	Screw	BMZ20P025FMC
	52	Washer	CBF1039
	53	Connector	CDE6704
	54	Gear	CNV5296
	55	Gear	CNV5297
	56	Gear	CNV5298
	57	Holder Unit	CXB7342
	58	Torque Limiter Unit	CXB8742
	59	Screw	BPZ20P060FMC
	60	Connector	CDE6619
	61	Holder	CNC9435
	62	Cover	CNM7367
	63	Cushion	CNM7905
	64	Lighting Conductor	CNV6802
	65	Panel PCB Unit	CWM7806
	66	Connector(CN1801)	CKS3965
	67	Panel Unit	CXB7758
	68	Housing Unit	CXB9194
	69	Button Unit	CXB9767
	70	Chassis Frame Assy	CXB7762
	71	Transistor(Q351,751,905,909,913)	2SB1185
	72	Transistor(Q902)	2SD2353
	73	Transistor(Q912)	2SB1299
	74	Motor Unit(M901)	CXC1191
*	75	Grille Assy	CXB7383
	76	•••••	
	77	Screw	BMZ26P040FMC
	78	Screw(M2x2.5)	CBA1076
	79	Spring(Black)	CBH2482
	80	Spring(Silver)	CBH2481
	81	Chassis	CNA2414
	82	Case	CNB2758
	83	Bracket	CNC9443
	84	Bracket	See Contrast table(2)
	85	Holder	See Contrast table(2)
	86	Sheet	CNM5981
	87	Sheet	CNM7731
	88	Flexible PCB	CNP6438
	89	Damper	CNV6608
	90	Control Unit(G2F)	CWX2589
	91	Connector(CN601)	CKS1956
	92	Connector(CN101)	CKS4512
	93	Service Mechanism Unit(G2AVX)	CXX1657
	94	Stick Finger	DNB1092
	95	Screw	IMS26P050FMC
	96	Label	CRW1462
	97	Insulator	See Contrast table(2)

(2) CONTRAST TABLE

AVX-MG2227ZF and AVX-MG2327ZF are constructed the same except for the following:

Mark	NO	Symbol and Description	AVX-MG2227ZF	AVX-MG2327ZF
	10	Tuner Audio Unit	CWM8036	CWM8037
	84	Bracket	CNC9453	CNC9601
	85	Holder	CNC9438	CNC9612
	97	Insulator	CNM8126	Not used

2.4 EXTERIOR(2)(AVX-MG2027ZF,AVX-MG2127ZF)



(1)EXTERIOR(2)(AVX-MG2027ZF,AVX-MG2127ZF) SECTION PARTS LIST

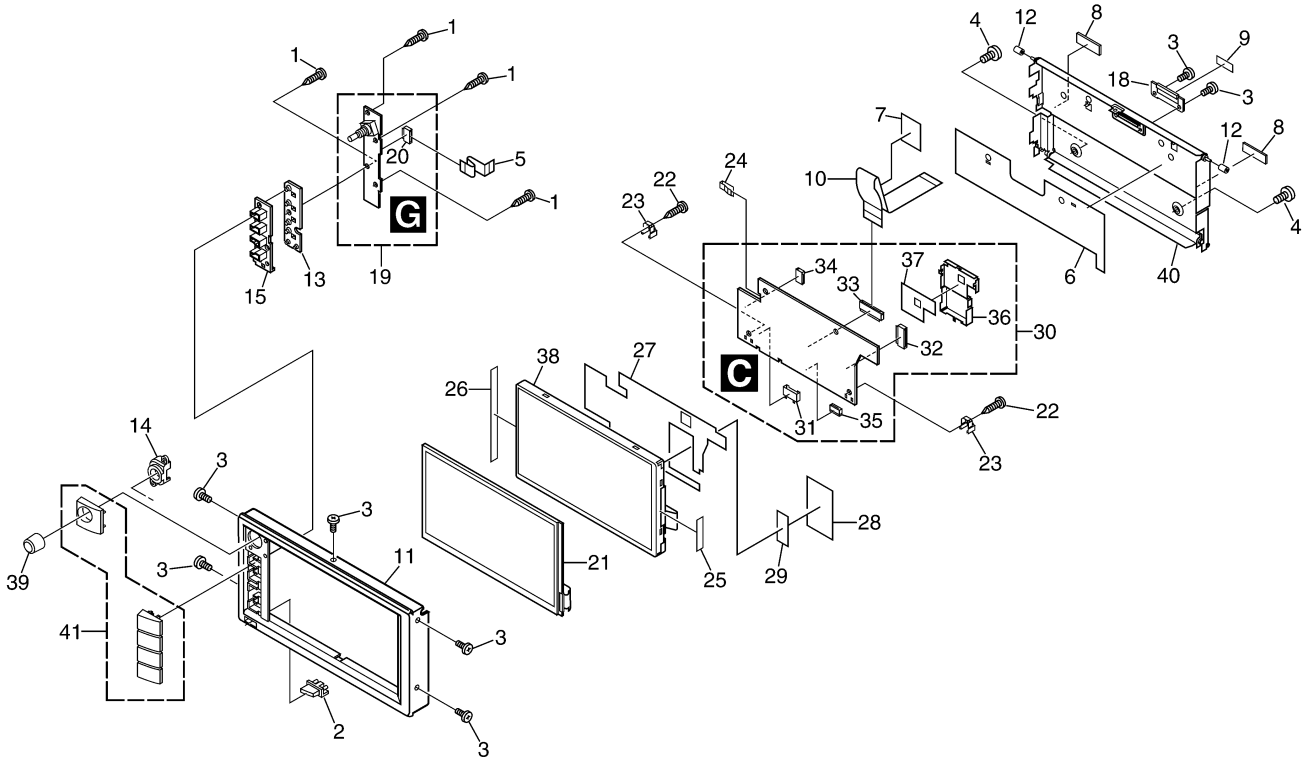
Mark	No.	Description	Part No.
	1	Screw	BPZ20P080FMC
	2	Button(OPEN/CLOSE)	See Contrast table(2)
	3	Screw(M2x1.925)	CBA1453
	4	Screw	CBA1482
	5	Connector	CDE6620
	6	Insulator	CNM7302
	7	Cover	CNM7720
	8	Cushion	CNM7727
	9	Sheet	CNM7886
	10	Flexible PCB	CNP6330
	11	Grille	See Contrast table(2)
	12	Roller	CNV6198
	13	Rubber	CNV6749
	14	Lighting Conductor	CNV6753
	15	Housing	CNV6754
	16	Lighting Conductor	CNV6864
	17	Lighting Conductor	CNV6865
	18	Guide	CNV7234
	19	Keyboard Unit	CWM7802
	20	Connector(CN1851)	CKS4212
	21	Touch Panel	CWX2710
	22	Screw	BPZ20P050FMC
	23	Holder	CNC9456
	24	Earth	CND1003
	25	Sheet	CNM7473
	26	Sheet	CNM7648
	27	Insulator	CNM7862
	28	Insulator	CNM7863
*	29	Double Faced Tape	CNM7991
	30	Module Unit	CWM7803
	31	Connector(CN4161)	CKS3192
	32	Connector(CN4301)	CKS3991
	33	Connector(CN4001)	CKS4132
	34	Connector(CN4201)	CKS4212
	35	Connector(CN4202)	CKS4510
	36	Shield	CNC9457
	37	Insulator	CNM7303
	38	LCD Module	CWX2448
	39	Knob Unit	See Contrast table(2)
	40	Case Unit	CXB8764
	41	Button Unit	See Contrast table(2)

(2) CONTRAST TABLE

AVX-MG2027ZF and AVX-MG2127ZF are constructed the same except for the following:

Mark	NO	Symbol and Description	AVX-MG2027ZF	AVX-MG2127ZF
	2	Button(OPEN/CLOSE)	CAC7032	CAC7037
	11	Grille	CNS6611	CNS6612
	39	Knob Unit	CXB7409	CXB7410
	41	Button Unit	CXB9370	CXB9371

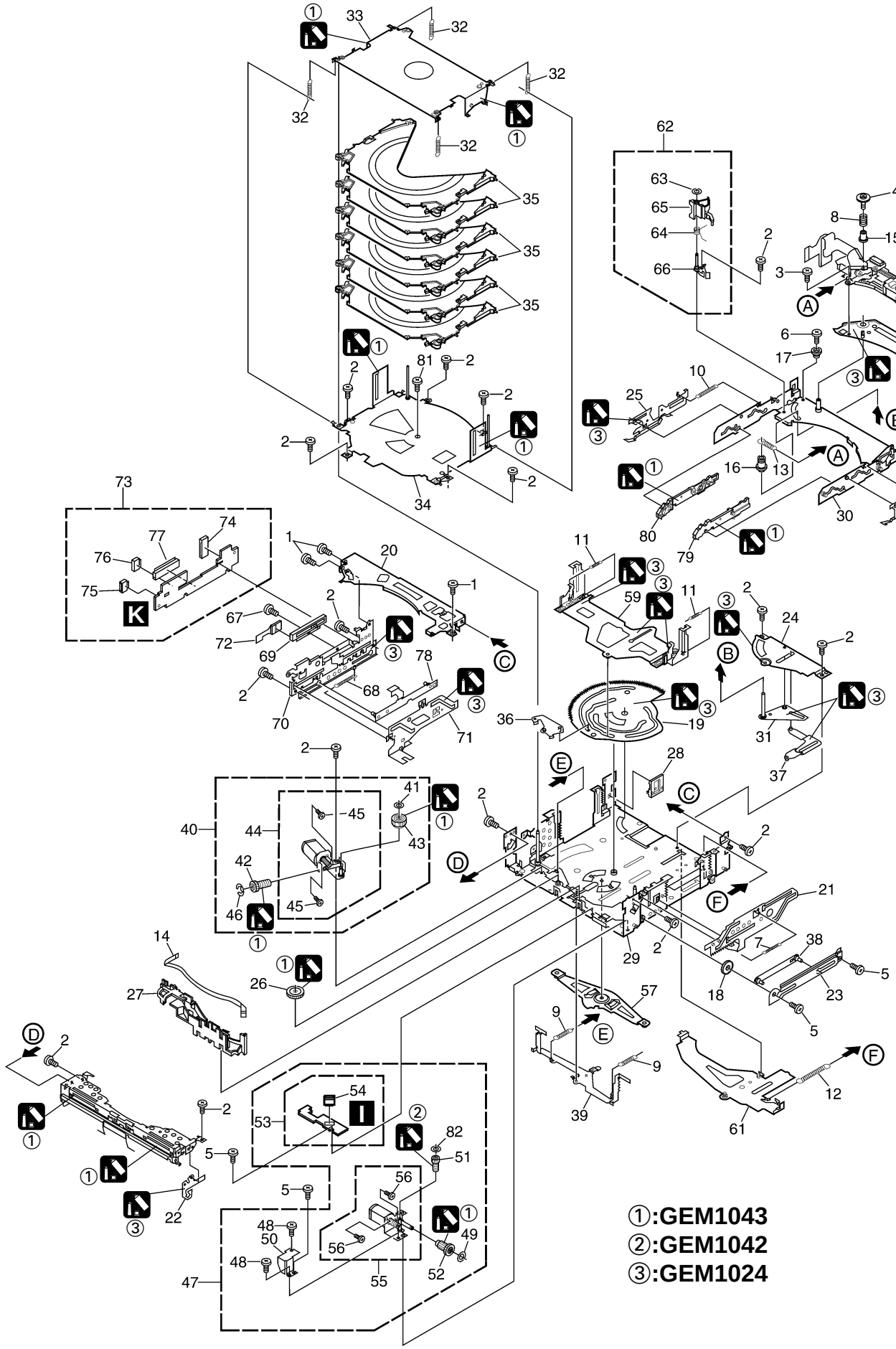
2.5 EXTERIOR(2)(AVX-MG2227ZF,AVX-MG2327ZF)



(1)EXTERIOR(2)(AVX-MG2227ZF,AVX-MG2327ZF) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BPZ20P080FMC
	2	Button(OPEN/CLOSE)	CAC7817
	3	Screw(M2x1.925)	CBA1453
	4	Screw	CBA1482
	5	Connector	CDE6620
	6	Insulator	CNM7302
	7	Cover	CNM7720
	8	Cushion	CNM7727
	9	Sheet	CNM7886
	10	Flexible PCB	CNP6330
	11	Grille	CNS6613
	12	Roller	CNV6198
	13	Rubber	CNV6749
	14	Lighting Conductor	CNV7596
	15	Housing	CNV7287
	16	•••••	
	17	•••••	
	18	Guide	CNV7234
	19	Keyboard Unit	CWM7807
	20	Connector(CN1851)	CKS4212
	21	Touch Panel	CWX2710
	22	Screw	BPZ20P050FMC
	23	Holder	CNC9456
	24	Earth	CND1003
	25	Sheet	CNM7473
	26	Sheet	CNM7648
	27	Insulator	CNM7862
	28	Insulator	CNM7863
*	29	Double Faced Tape	CNM7991
	30	Module Unit	CWM7803
	31	Connector(CN4161)	CKS3192
	32	Connector(CN4301)	CKS3991
	33	Connector(CN4001)	CKS4132
	34	Connector(CN4201)	CKS4212
	35	Connector(CN4202)	CKS4510
	36	Shield	CNC9457
	37	Insulator	CNM7303
	38	LCD Module	CWX2448
	39	Knob Unit	CXB7411
	40	Case Unit	CXB8765
	41	Button Unit	CXB9767

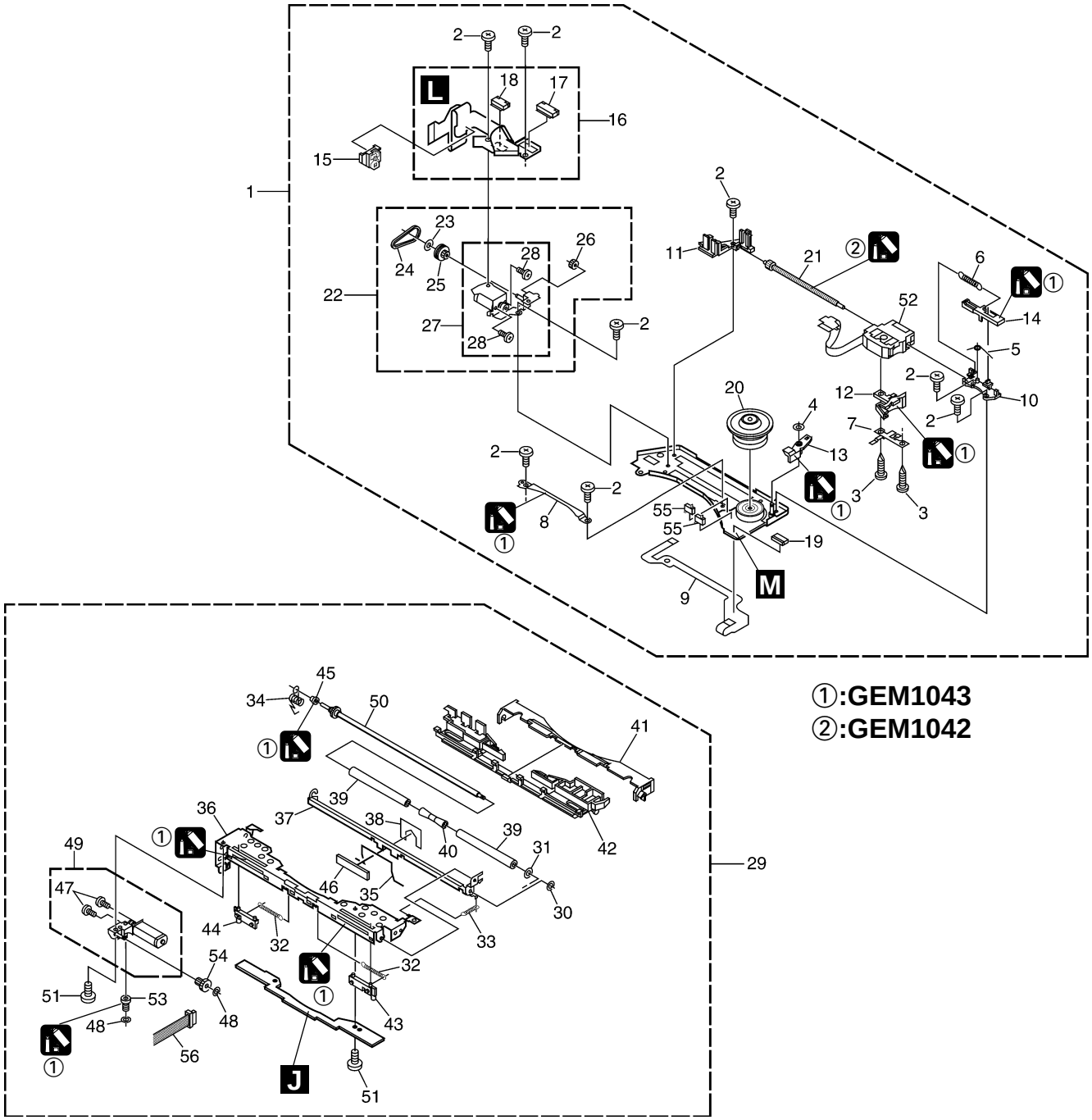
2.6 CD MECHANISM UNIT(G2)(1)



CD MECHANISM UNIT(G2)(1) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BMZ20P020FZB
	2	Screw	BMZ20P025FMC
	3	Screw(M2x2)	CBA1556
	4	Screw(M2x2.5)	CBA1557
	5	Screw(M2x2.5)	CBA1577
	6	Screw(M2x4.5)	CBA1607
	7	Spring	CBH2460
	8	Spring	CBH2461
	9	Spring	CBH2484
	10	Spring	CBH2485
	11	Spring	CBH2486
	12	Spring	CBH2668
	13	Spring	CBH2500
	14	Connector	CDE6698
	15	Collar	CLA3994
	16	Collar	CLA4039
	17	Collar	CLA4248
	18	Gear	CNC9222
*	19	Cam Gear	CNC9223
	20	Frame	CNC9225
	21	Steer	CNC9233
	22	Arm	CNC9242
	23	Bracket	CNC9403
*	24	Bracket	CNC9408
*	25	Lever	CNC9953
	26	Gear	CNV6612
	27	Holder	CNV6648
	28	Holder	CNV6738
*	29	Chassis Unit	CXB6873
*	30	Frame Unit	CXB6875
*	31	Arm Unit	CXB6887
	32	Spring	CBH2670
	33	Holder Unit	CXB6877
	34	Holder Unit	CXB6884
	35	Tray Unit	CXB6930
	36	Lever Unit	CXB6934
*	37	Lever Unit	CXB6936
	38	Lever Unit	CXB6938
*	39	Lever Unit	CXB6939
	40	Cam Motor Assy	CXB7522
	41	Washer	CBF1064
	42	Gear	CNV6610
	43	Gear	CNV6611
	44	Motor Unit(-A)(M1)	CXB9726
	45	Screw	JFZ20P020FMC
	46	Washer	YE20FUC
	47	ELV Motor Assy	CXB7523
	48	Screw	BMZ20P025FMC
	49	Washer	CBF1064
	50	Holder	CNC9799
	51	Gear	CNV6634
	52	Gear	CNV6635
	53	PCB Unit(LED)	CWX2614
*	54	Connector(CN31)	CKS4523
	55	Motor Unit(-B)(M2)	CXB7526
	56	Screw	JFZ20P020FMC
*	57	Arm Unit	CXB7747
	58	Bracket Unit	CXB7811
*	59	Lever Unit	CXB8653
*	60	Lever Unit	CXB8724
*	61	Lever Unit	CXB8821
	62	Arm Assy	CXB8822
	63	Washer	CBF1038
	64	Spring	CBH2489
	65	Arm	CNV6735
	66	Bracket Unit	CXB7519
	67	Screw	BMZ20P025FMC
	68	Spring	CBH2667
	69	Volume(VR1)	CCW1023
	70	Bracket	CNC9226
	71	Steer	CNC9235
	72	Flexible PCB	CNP6368
	73	PCB Unit(SIDE)	CWX2613
	74	Connector(CN12)	CKS3991
*	75	Connector(CN14)	CKS4404
	76	Connector(CN13)	CKS4525
	77	Connector(CN11)	CKS4572
	78	Lever Unit	CXB6883
*	79	Lever Unit	CXB9121
*	80	Lever Unit	CXB9122
	81	Screw	JFZ20P020FMC
	82	Washer	CBF1037

2.7 CD MECHANISM UNIT(G2)(2)

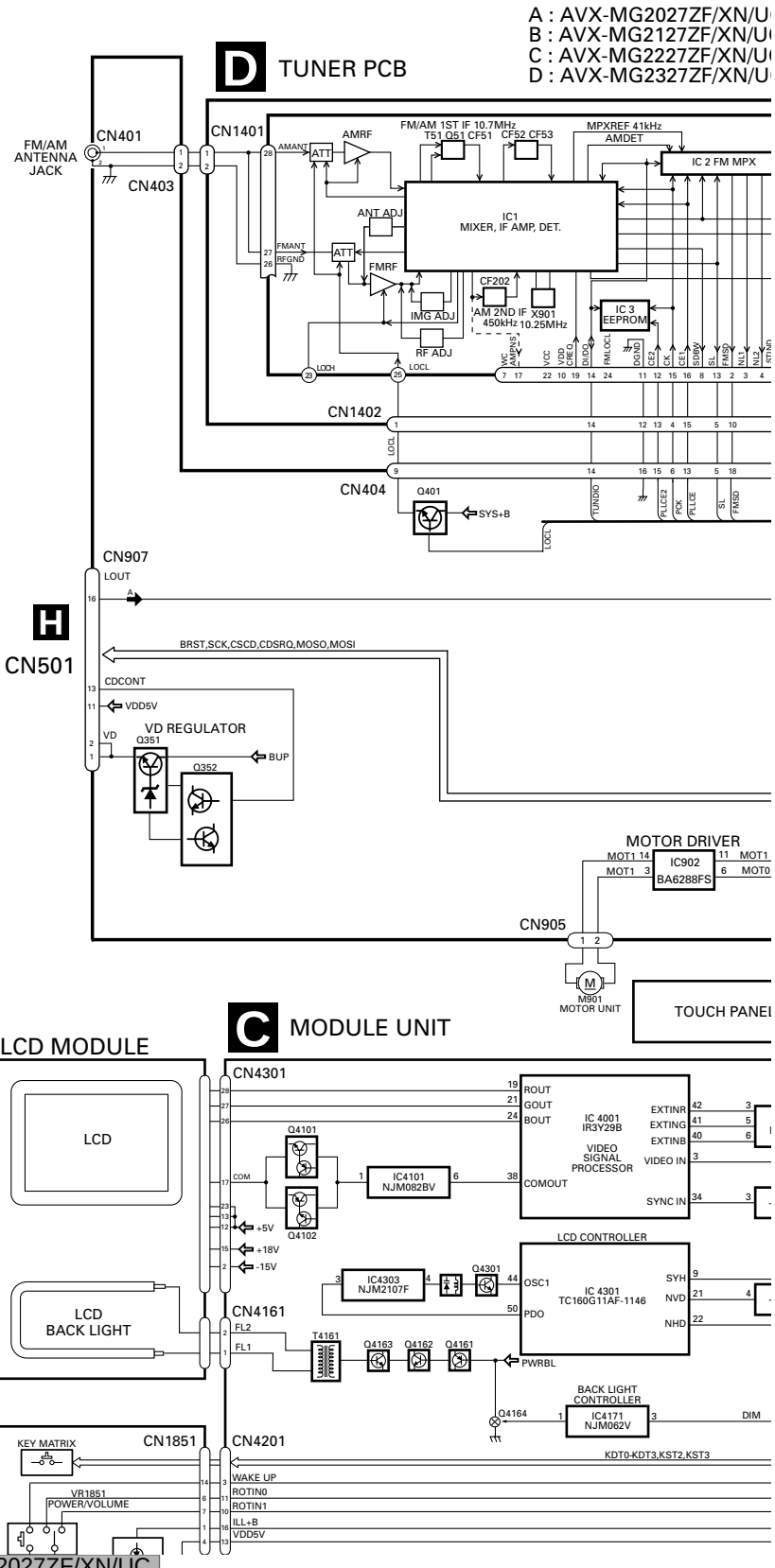


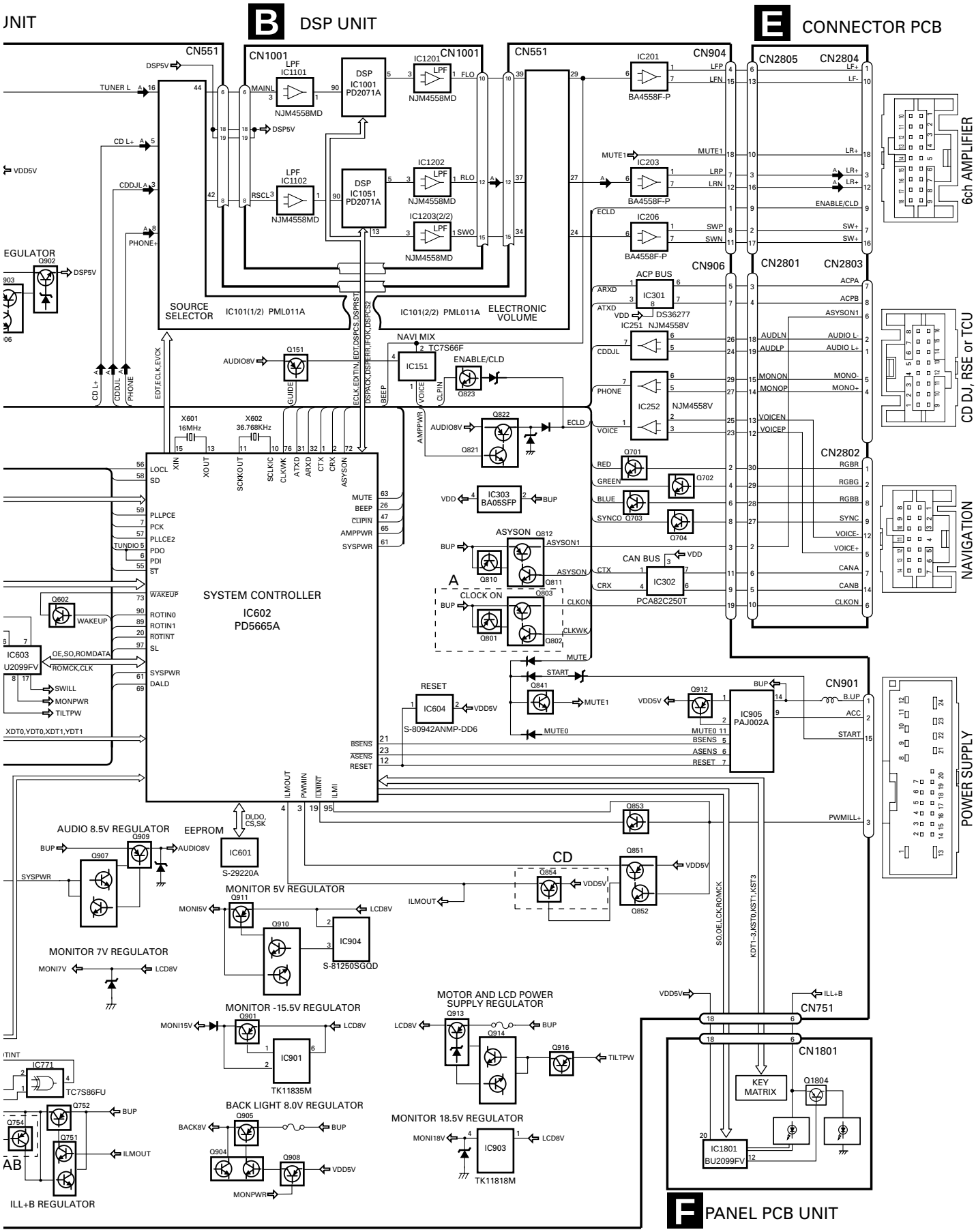
CD MECHANISM UNIT(G2)(2) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Carriage Mech. Assy(G2)	CXB7520
	2	Screw(M2x2)	CBA1556
	3	Screw(M2x6)	CBA1582
	4	Washer	CBF1038
	5	Spring	CBH2453
	6	Spring	CBH2480
	7	Spring	CBL1521
*	8	Guide	CNC9402
	9	Flexible PCB	CNP6217
	10	Holder	CNV6624
	11	Holder	CNV6625
	12	Rack	CNV6642
	13	Arm	CNV6731
	14	Lever	CNV6736
	15	Holder	CNV6737
	16	PCB Unit	CWX2611
	17	Connector(CN41)	CKS3785
	18	Connector(CN42)	CKS4508
	19	Connector(CN1)	CKS4508
	20	Support Wheel Unit	CXB8486
	21	Screw Unit(-A)	CXB7518
	22	Carriage Motor Assy	CXB7521
	23	Washer	CBF1038
	24	Belt	CNT1088
	25	Pulley	CNV6627
	26	Gear	CNV6629
	27	Motor Unit(-A)(M3)	CXB7517
	28	Screw	JFZ14P020FMC
	29	Loading Mech. Assy	CXB7525
	30	Washer	CBF1037
*	31	Washer	CBF1075
*	32	Spring	CBH2450
	33	Spring	CBH2672
*	34	Spring	CBH2457
*	35	Spring	CBH2580
*	36	Frame	CNC9228
*	37	Arm	CNC9229
*	38	Sheet	CNM7295
	39	Roller	CNV6616
	40	Collar	CNV6617
*	41	Guide	CNV6622
*	42	Holder	CNV6636
*	43	Lever	CNV6732
*	44	Lever	CNV6733
	45	Collar	CNV6734
*	46	Holder	CNV7144
	47	Screw	JFZ12P018FMC
	48	Washer	CBF1037
*	49	Motor Unit(-C)	CXB7529
	50	Shaft Unit(-B)	CXB7528
	51	Screw	JFZ20P020FMC
	52	PU Unit(PX1)(Service)	CXX1568
*	53	Gear	CNV6620
*	54	Gear	CNV6621
	55	Switch(S1,2)	CSN1057
*	56	Connector	CDE6674

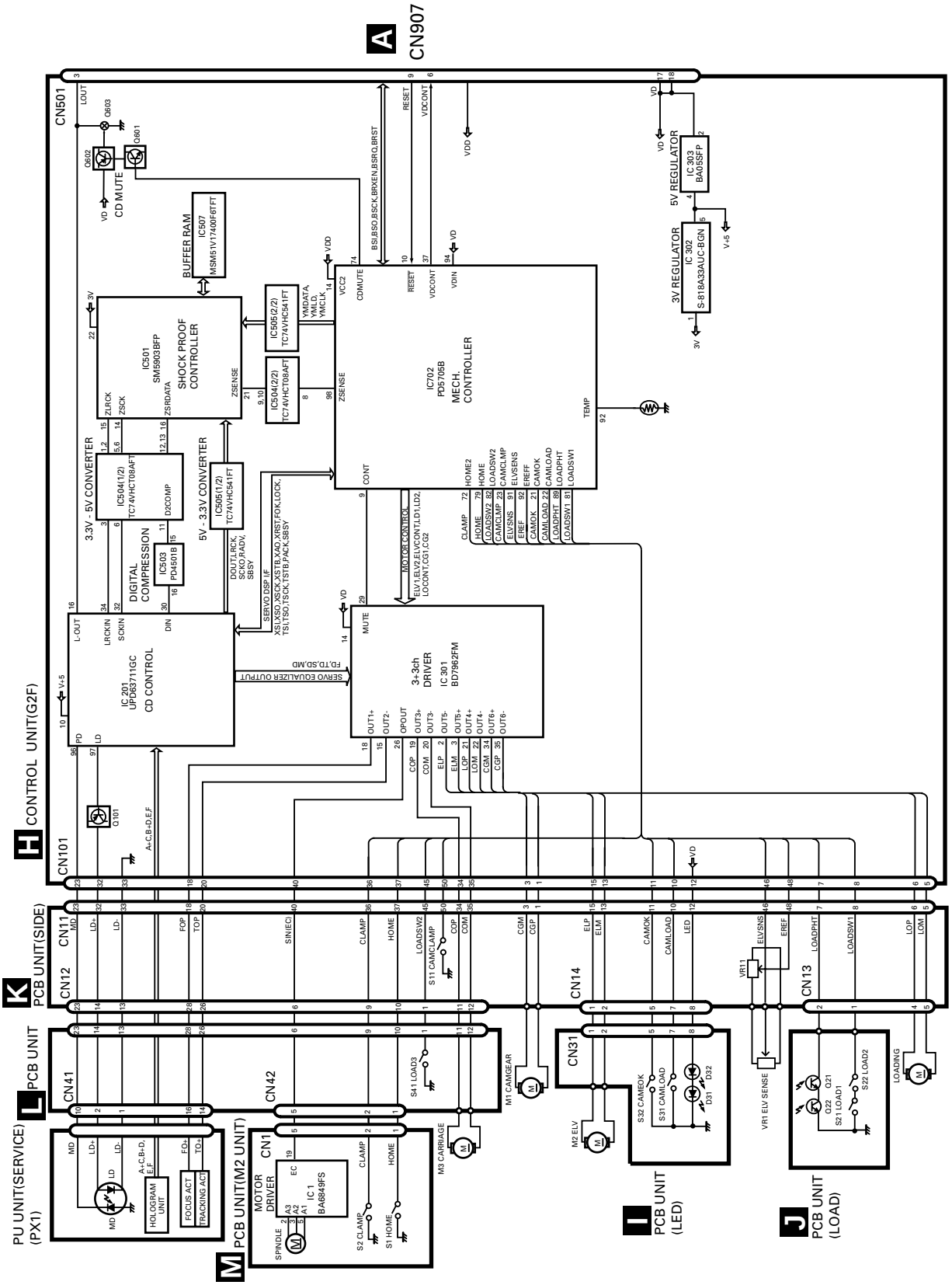
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM(1)




UNIT
B DSP UNIT
E CONNECTOR PCB
CN551
CN1001
CN1001
CN551
CN904
CN2805
CN2804
DSP5V
TUNER L
CD L+
CDDJL
PHONE+
VDD5V
LPF IC1101
LPF IC1102
DSP IC1001 PD2071A
IC1201 LPF
IC1202 LPF
IC1203(2/2) LPF
NJM4558MD
MAINL
RSCL
FLO
RLO
SWO
IC201
IC203
IC206
BA4558F-P
LFP
LFN
LR+
LRP
LRN
SWP
SWN
ENABLE/CLD
SW+
6ch AMPLIFIER
SOURCE SELECTOR
IC101(1/2) PML011A
IC101(2/2) PML011A
ELECTRONIC VOLUME
CN906
CN2801
CN2803
ACP BUS
IC301
DS36277
ARXD
ATXD
VDD
IC251 NJM4558V
AUDLN
AUDLP
AUDIO L-
AUDIO L+
CD DJ, RSE or TCU
MONON
MONOP
MONO-
MONO+
IC252 NJM4558V
PHONE
VOICE
VOICEN
VOICEP
CN2802
RED
GREEN
BLUE
SYNCO
Q701
Q702
Q703
Q704
RGBR
RGBG
RGBB
SYNC
VOICE-
VOICE+
CANA
CANB
NAVIGATION
REGULATOR
Q902
903
906
NAVI MIX
IC151 TC7S66F
AUDIO8V
Q151
GUIDE
ENABLE/CLD
Q823
CL.PIN
VOICE
BEEP
ECLK,EDITIN,EDT,DSPCS,DSPRST
DSPACK,DSPERR,IFOK,DSPCS2
EDT,ECLK,EVCK
CD L+
CDDJL
PHONE
X601 16MHz
X602 36.768KHz
XIN
XOUT
SCKKOUT
SCLKIC
CLKWK
ATXD
ARXD
CTX
CRX
ASYSON
LOCL
SD
PLLPCE
PCK
PLLCE2
PDO
PDI
ST
TUNDIO
WAKEUP
ROTIN0
ROTIN1
ROTINT
SL
SYSPWR
DALD
SYSTEM CONTROLLER
IC602
PD5665A
MUTE
BEEP
CLIPIN
AMPPWR
SYSPWR
Q822
Q821
AUDIO8V
ECLD
IC303 BA05SFP
VDD
BUP
ASYSON Q812
Q810
Q811
ASYSON1
ASYSON
CAN BUS
IC302
PCA82C250T
CTX
CRX
CLOCK ON
Q803
Q801
Q802
CLKON
CLKWK
Q602
WAKEUP
IC603 U2099FV
OE,SO,ROMDATA
ROMCK,CLK
SWILL
MONPWR
TILTPW
XDT0,YDT0,XDT1,YDT1
MUTE
START
Q841
MUTE1
MUTE0
RESET
IC604
S-80942ANMP-DD6
VDD5V
Q912
IC905 PAJ002A
MUTE0
BSENS
ASENS
RESET
CN901
B.UP
ACC
START
PWMILL+
POWER SUPPLY
ILMOUT
PWMIN
ILMINT
ILMI
DI,DO, CS,SK
EEPROM
IC601
S-29220A
AUDIO 8.5V REGULATOR
Q909
Q907
SYSPWR
AUDIO8V
BUP
MONITOR 5V REGULATOR
Q911
Q910
IC904
S-81250SGQD
MONI5V
LCD8V
MONITOR 7V REGULATOR
MONI7V
MONITOR -15.5V REGULATOR
Q901
IC901
TK11835M
MONI15V
BACK LIGHT 8.0V REGULATOR
Q905
Q904
Q908
BACK8V
MONPWR
MOTOR AND LCD POWER SUPPLY REGULATOR
Q913
Q914
Q916
TILTPW
MONITOR 18.5V REGULATOR
IC903
TK11818M
MONI18V
CD
Q853
Q851
Q854
Q852
VDD5V
SO,OE,LCK,ROMCK
KDT1-3,KST0,KST1,KST3
ILL+B
CN751
CN1801
KEY MATRIX
Q1804
IC1801 BU2099FV
IC771
TC7S86FU
TINT
Q752
Q754
Q751
ILL+B REGULATOR
F PANEL PCB UNIT

3.2 BLOCK DIAGRAM(2)



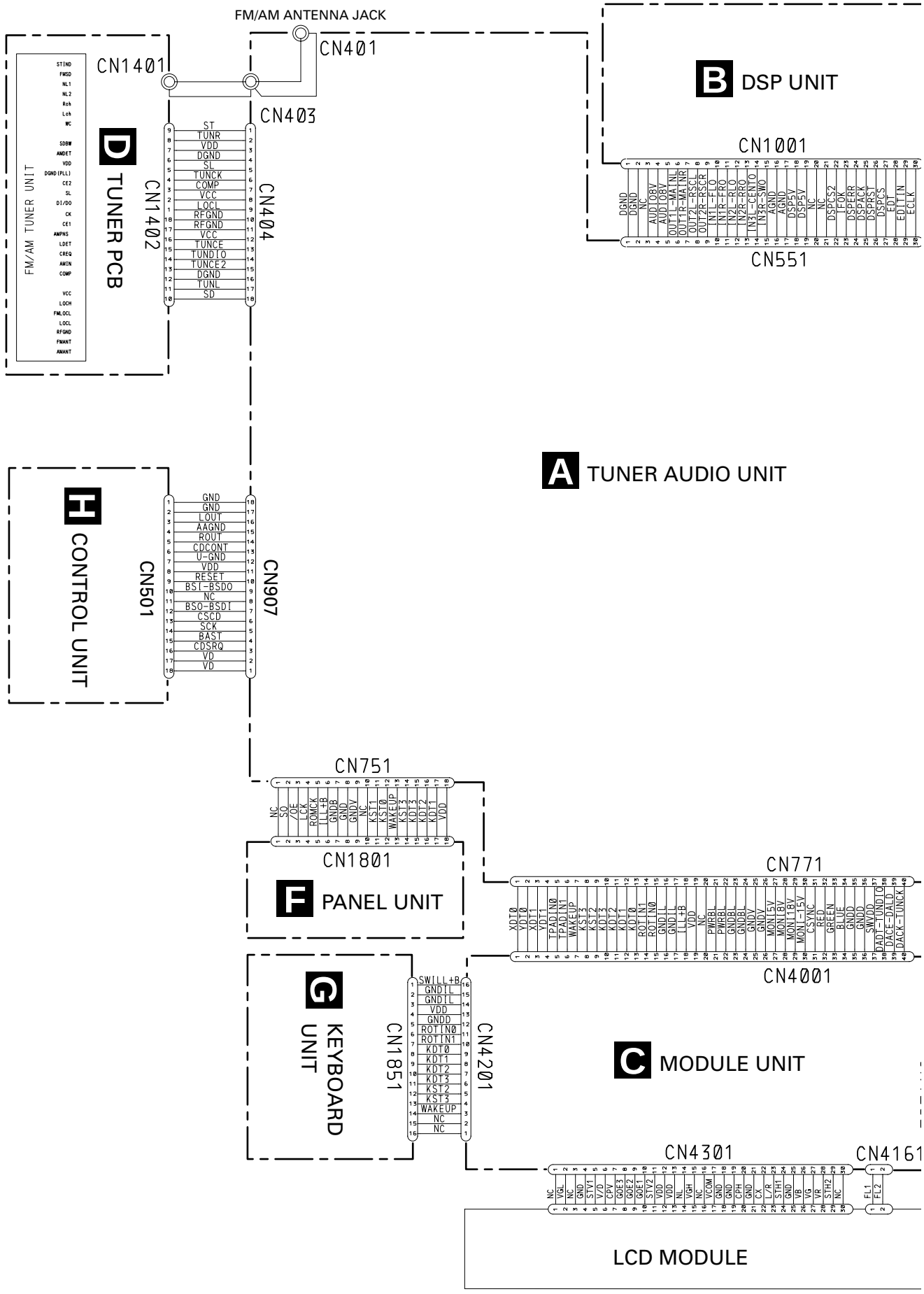
A

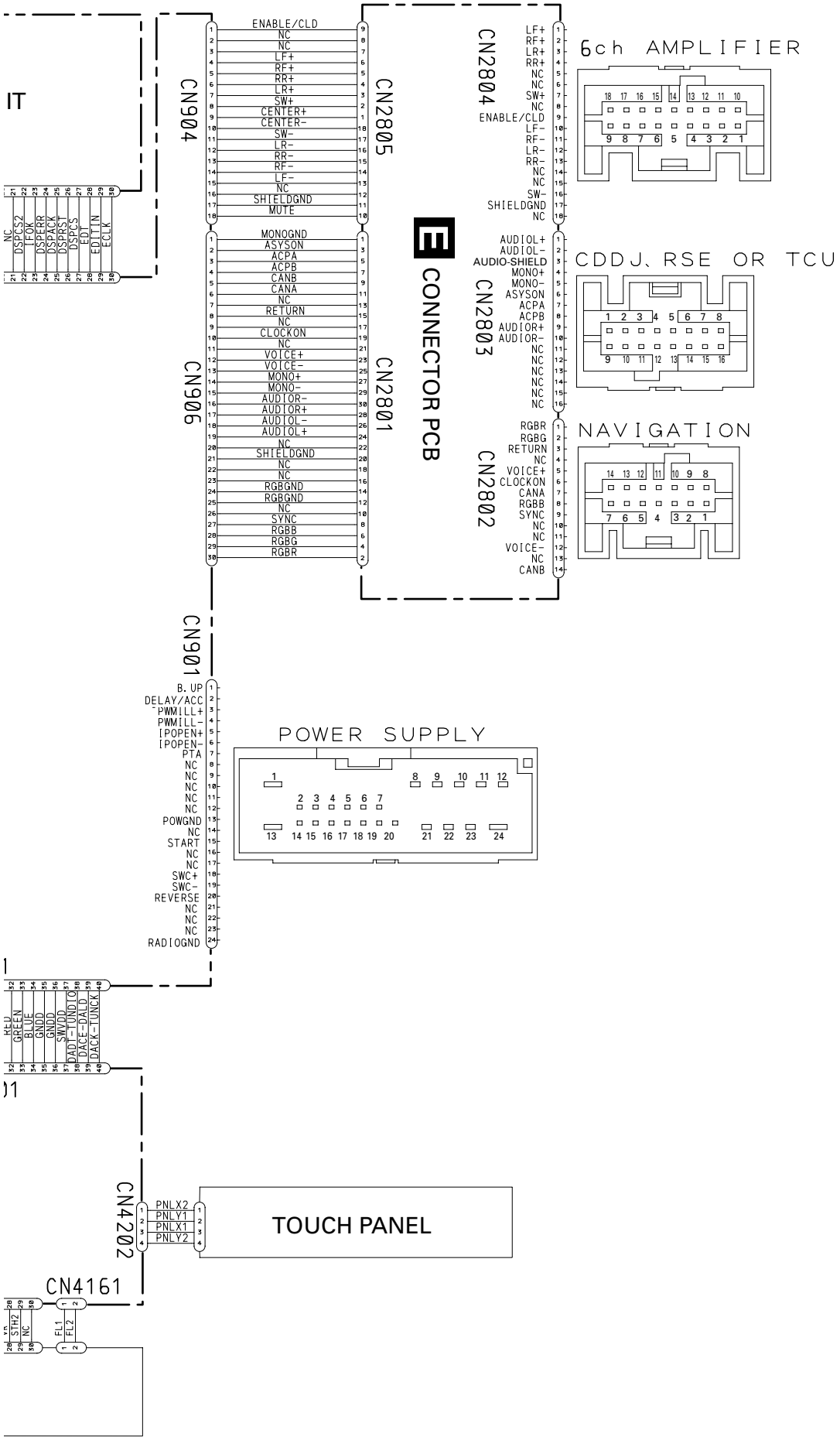
B

C

D

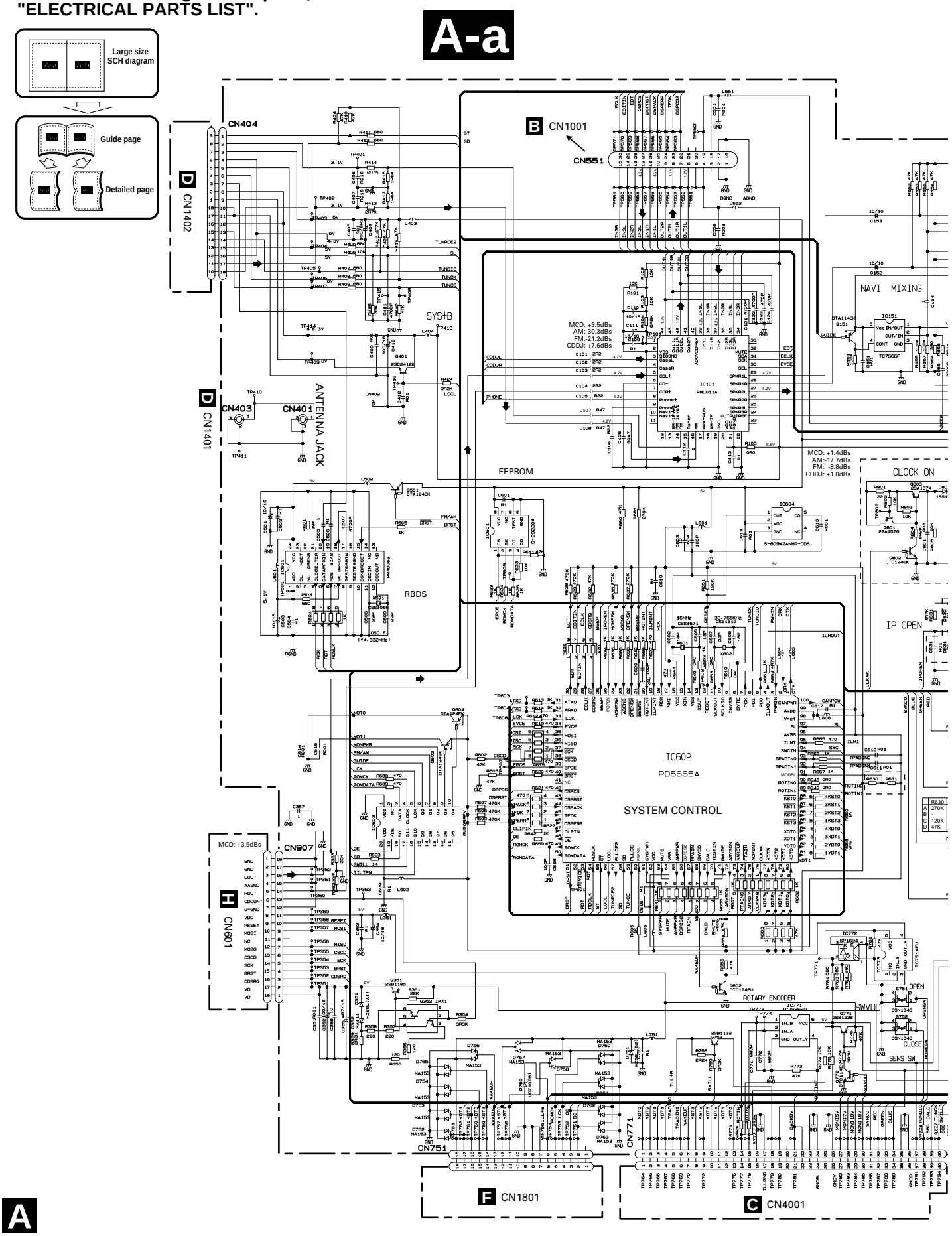
3.3 OVERALL CONNECTION DIAGRAM




CN904
CN906
CN901
CN2805
CN2801
CONNECTOR PCB
CN2804
CN2803
CN2802
6ch AMPLIFIER
CDDJ、RSE OR TCU
NAVIGATION
POWER SUPPLY
TOUCH PANEL
CN4202
CN4161
ENABLE/CLD
NC
LF+
RF+
RR+
LR+
SW+
CENTER+
CENTER-
SW-
LR-
RR-
RF-
LF-
SHIELDGND
MUTE
MONOGND
ASYSON
ACPA
ACPB
CANB
CANA
RETURN
CLOCKON
VOICE+
VOICE-
MONO+
MONO-
AUDIOR-
AUDIOR+
AUDIOL-
AUDIOL+
RGBGND
SYNC
RGBB
RGBG
RGBR
B. UP
DELAY/ACC
PWMILL+
PWMILL-
IPOPEN+
IPOPEN-
PTA
POWGND
START
SWC+
SWC-
REVERSE
RADIOGND
AUDIOL+
AUDIOL-
AUDIO-SHIELD
MONO+
MONO-
ASYSON
ACPA
ACPB
AUDIOR+
AUDIOR-
VOICE-
CANB
PNLX2
PNLY1
PNLX1
PNLY2
FL1
FL2
A
B
C
D

3.4 TUNER AUDIO UNIT(GUIDE PAGE)

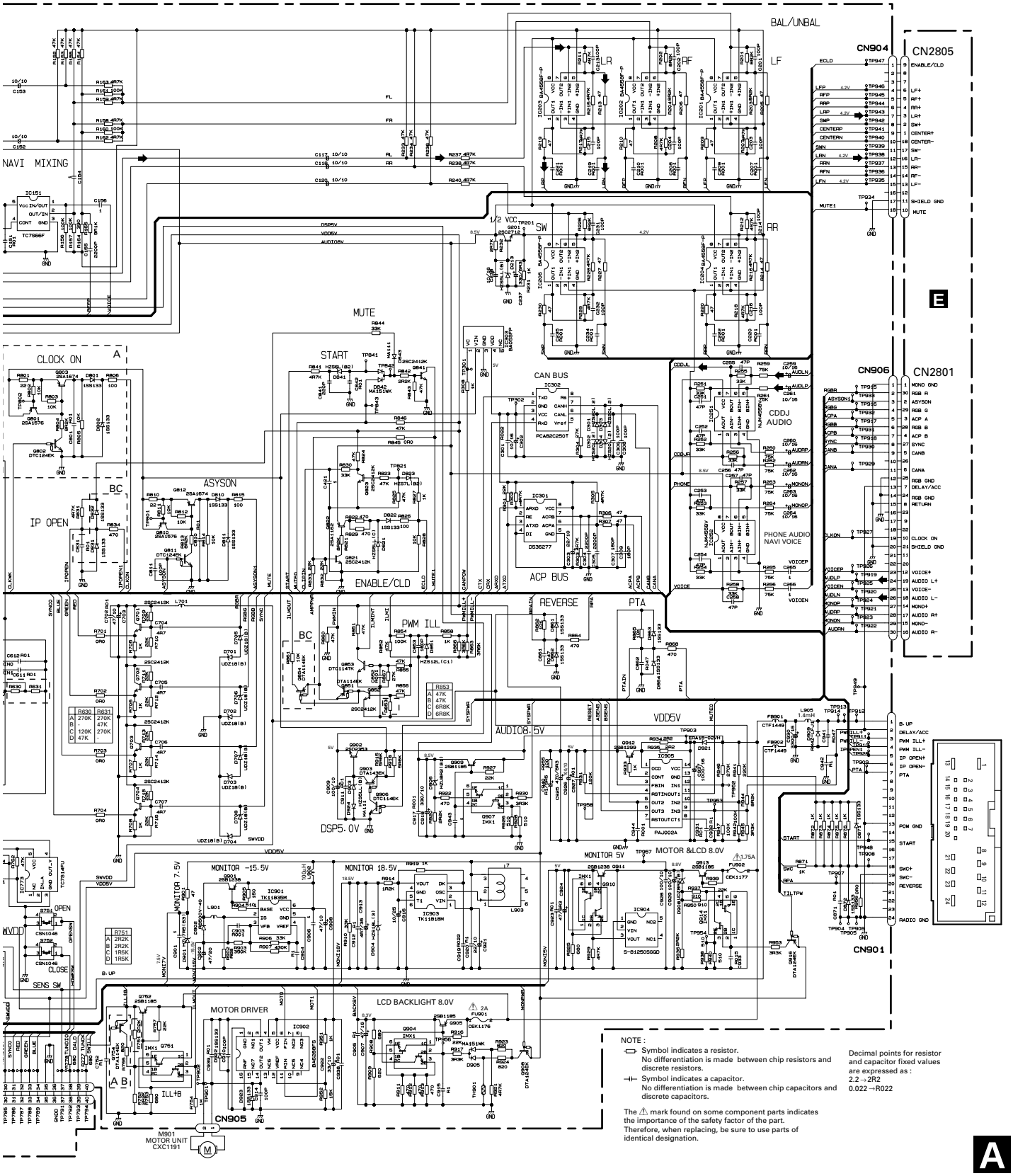
Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".



A-b

A : AVX-MG2027ZF/XN/UC
B : AVX-MG2127ZF/XN/UC
C : AVX-MG2227ZF/XN/UC
D : AVX-MG2327ZF/XN/UC

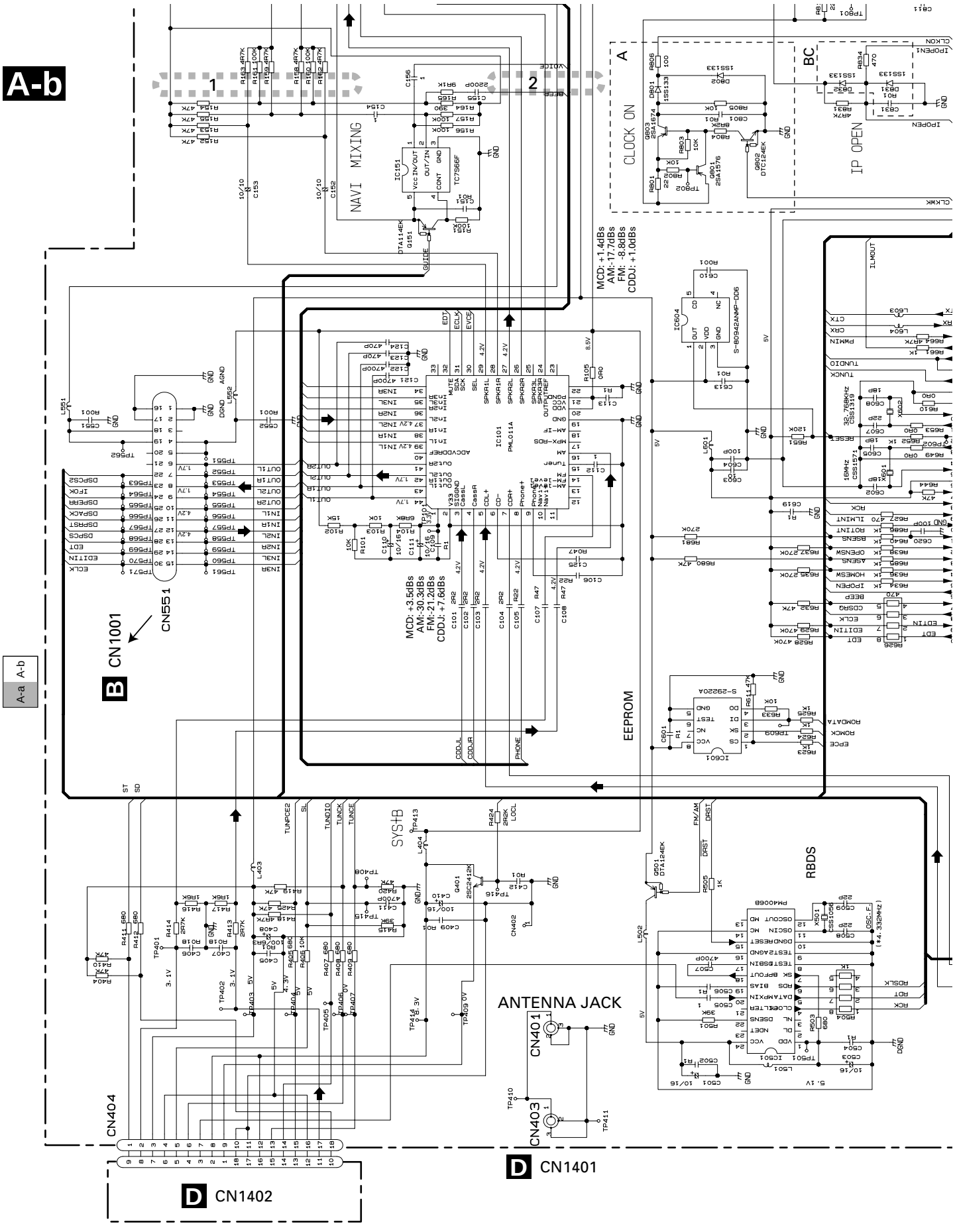
A TUNER AUDIO UNIT

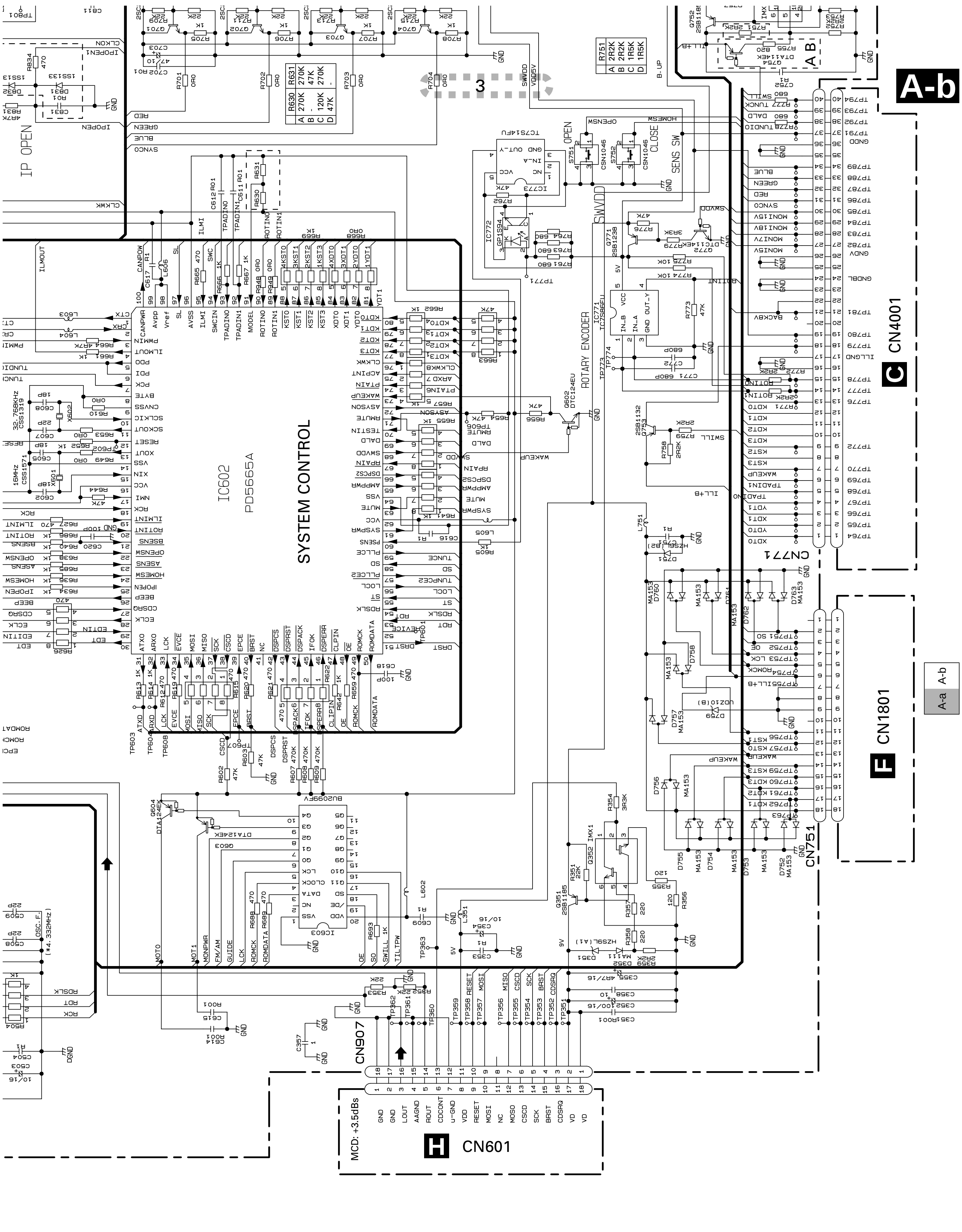


NOTE :
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

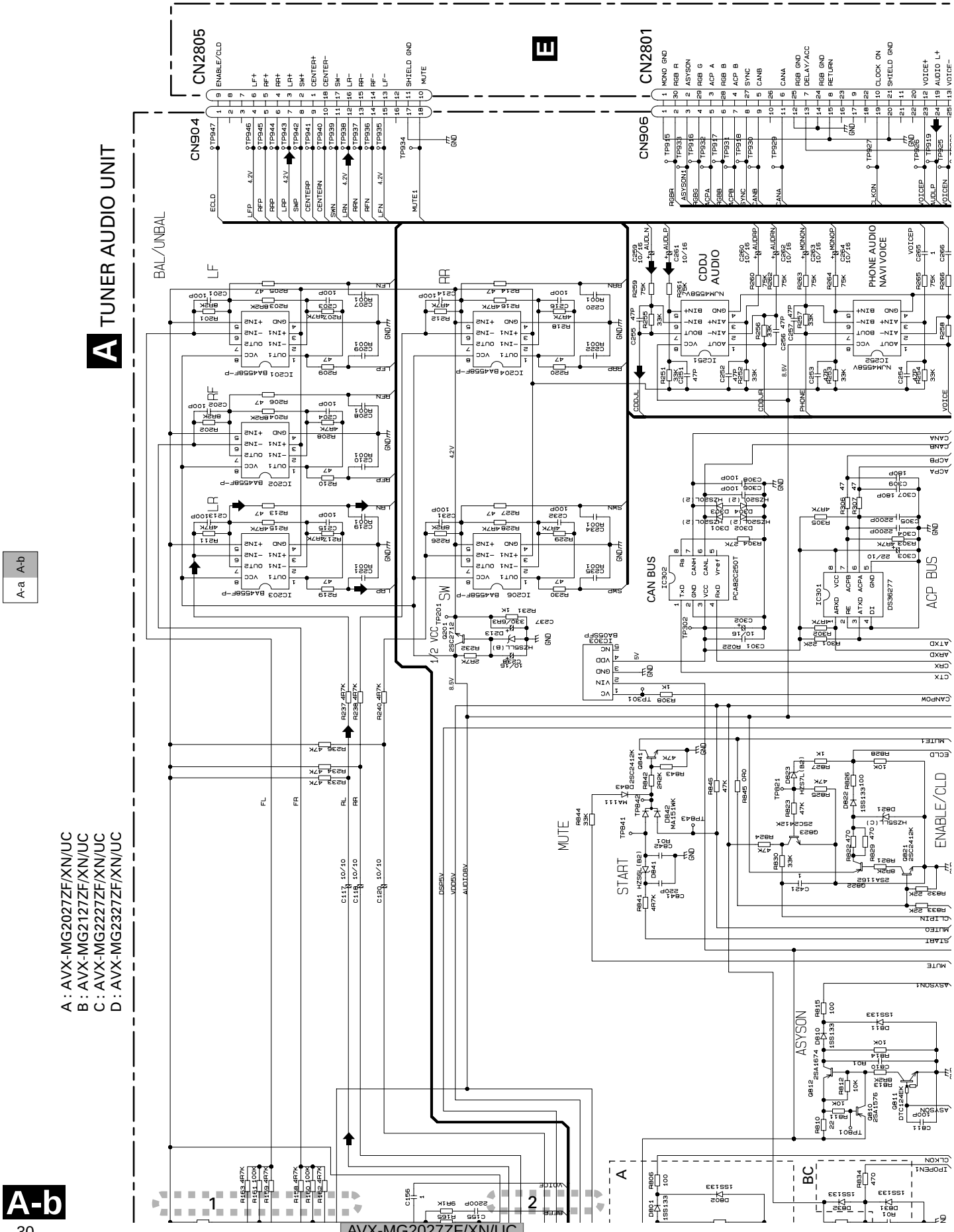
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022


A-b
A-a
B CN1001
CN551
D CN1402
D CN1401
CN404
CN401
CN403
ANTENNA JACK
EEPROM
RBDS
NAVI MIXING
CLOCK ON
IP OPEN
MCD: +1.4dBs
AM:-17.7dBs
FM: -8.8dBs
CDDJ: +1.0dBs
MCD: +3.5dBs
AM:-30.3dBs
FM:-21.2dBs
CDDJ: +7.6dBs

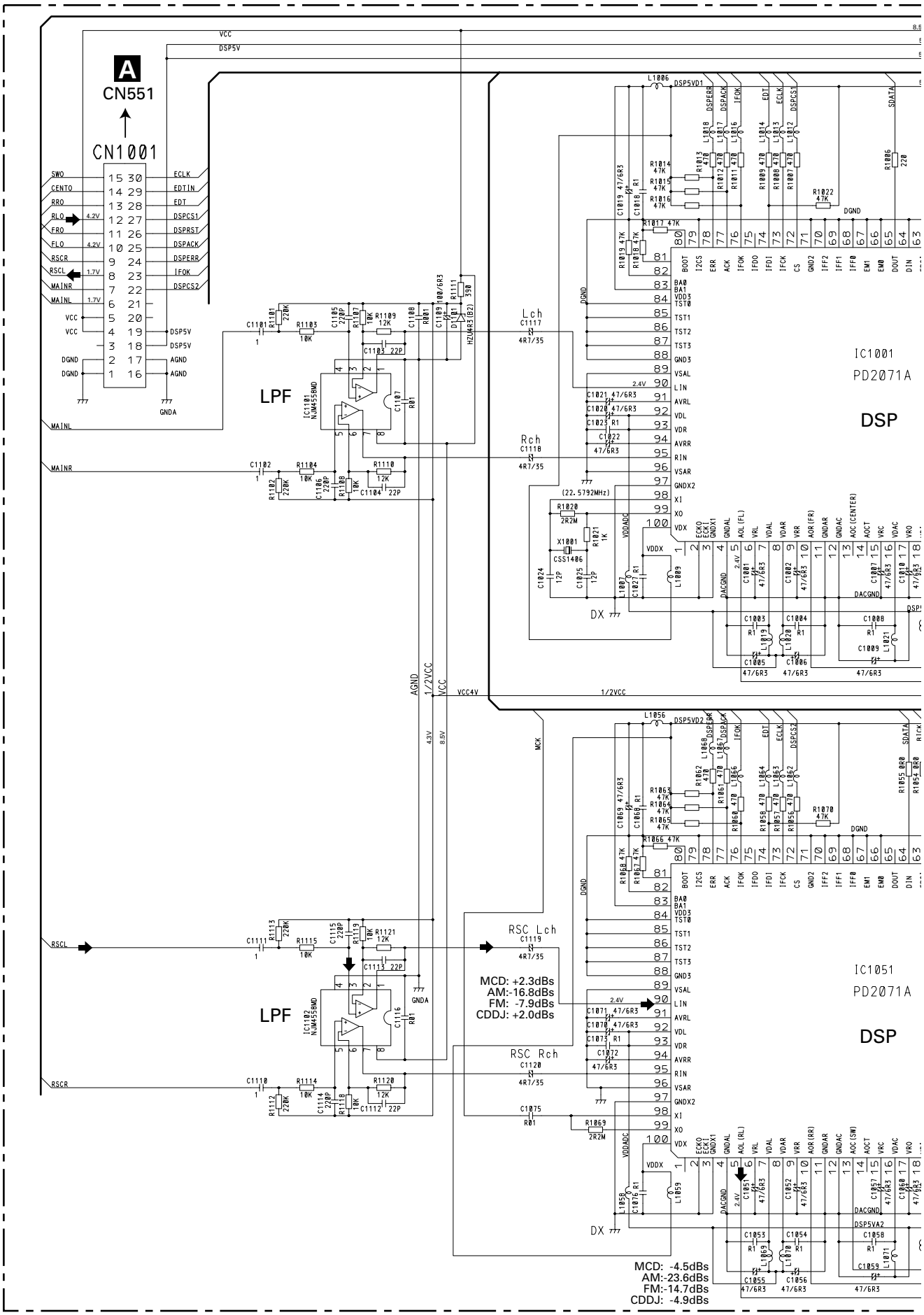

A-b
SYSTEM CONTROL
IC602
PD5665A
ROTARY ENCODER
SENS SW
OPEN
CLOSE
IP OPEN
C CN4001
F CN1801
CN771
CN751
CN907
H CN601
MCD: +3.5dBs
A-a

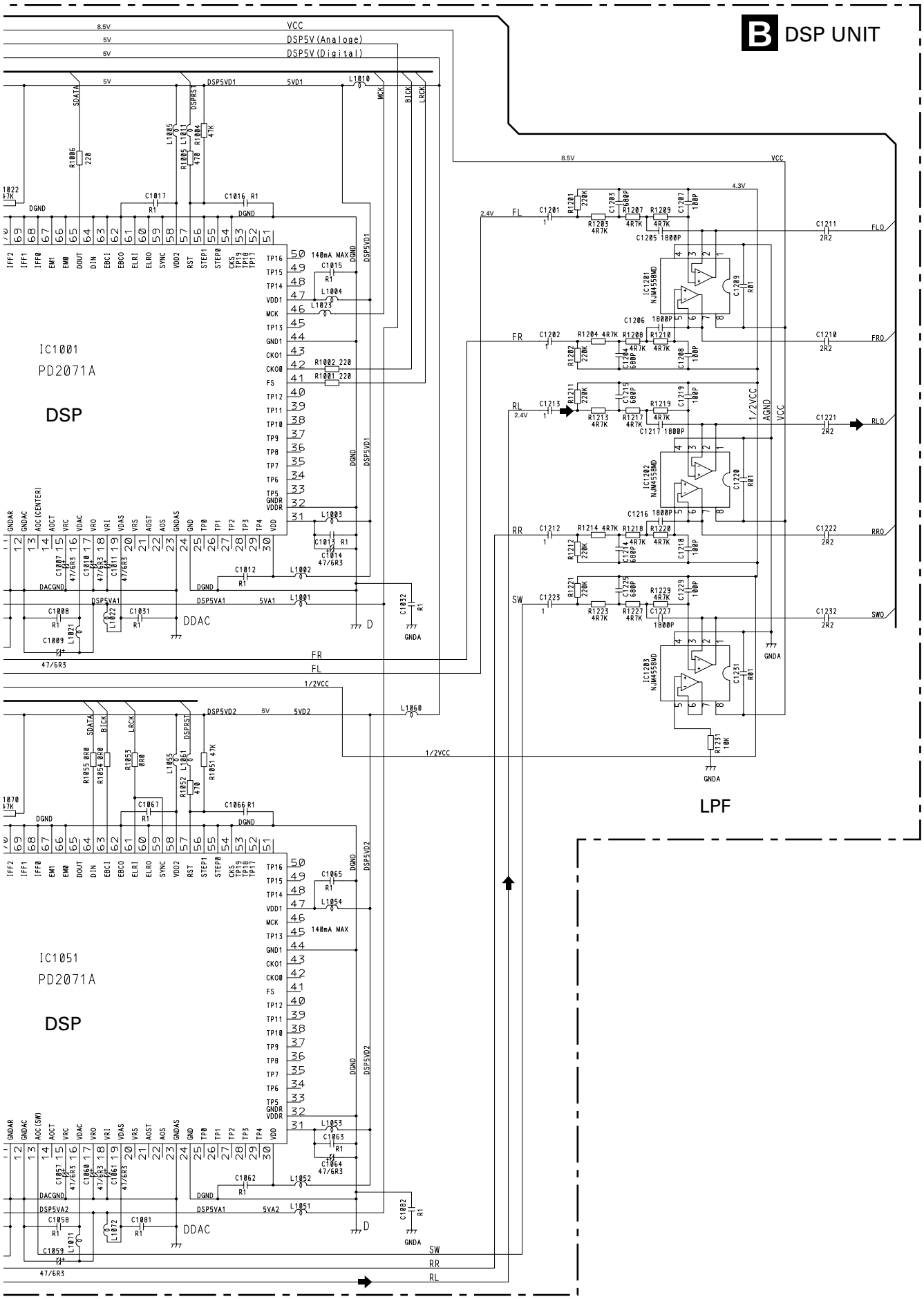
A
B
C
D


A TUNER AUDIO UNIT
CN2805
CN904
CN2801
CN906
BAL/UNBAL
LF
RF
LR
RR
SW
CDDJ AUDIO
PHONE AUDIO NAVI VOICE
CAN BUS
ACP BUS
MUTE
START
ENABLE/CLD
ASYSON
A : AVX-MG2027ZF/XN/UC
B : AVX-MG2127ZF/XN/UC
C : AVX-MG2227ZF/XN/UC
D : AVX-MG2327ZF/XN/UC
A-b
A-a
AVX-MG2027ZF/XN/UC
30

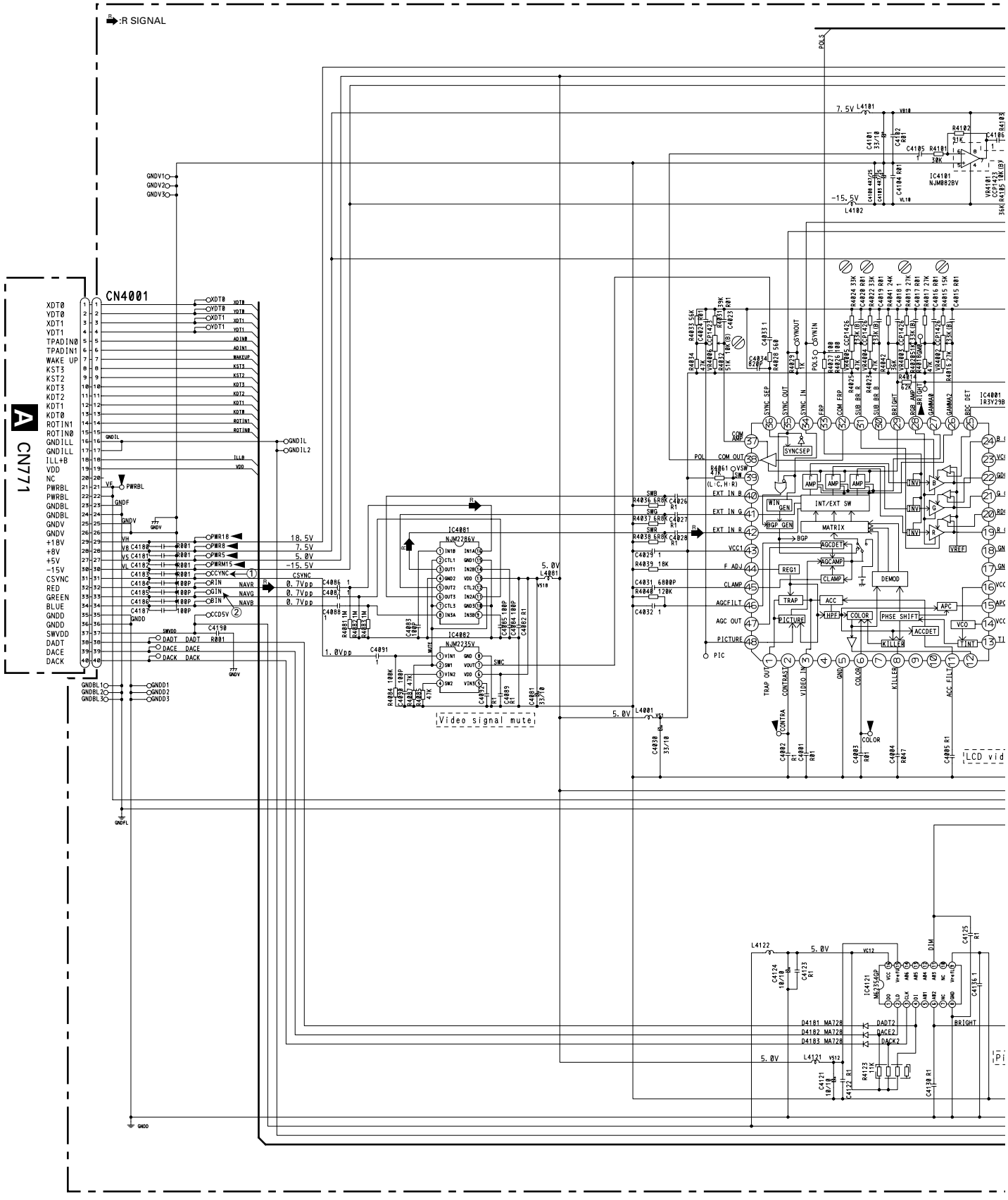
CN901
CN905
PHONE AUDIO
NAVI VOICE
VOICE
ACP BUS
REVERSE
PTA
VDD5V
AUDIO8.5V
MOTOR &LCD 8.0V
MONITOR 5V
MONITOR 18.5V
MONITOR -15.5V
MONITOR 7.5V
DSP5.0V
PWM ILL
ENABLE/CLD
BC
LCD BACKLIGHT 8.0V
MOTOR DRIVER
ILL+B
A B
B.UP
DELAY/ACC
PWM ILL+
PWM ILL-
IP OPEN+
IP OPEN-
PTA
POW GND
START
SWC+
SWC-
REVERSE
RADIO GND
CLOCK ON
SHIELD GND
VOICE+
AUDIO L+
VOICE-
AUDIO L-
MONO+
AUDIO R+
MONO-
AUDIO R-
M901
MOTOR UNIT
CXC1191
NOTE :
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
Decimal points for resistor and capacitor fixed values are expressed as :
2.2 → 2R2
0.022 → R022

3.5 DSP UNIT

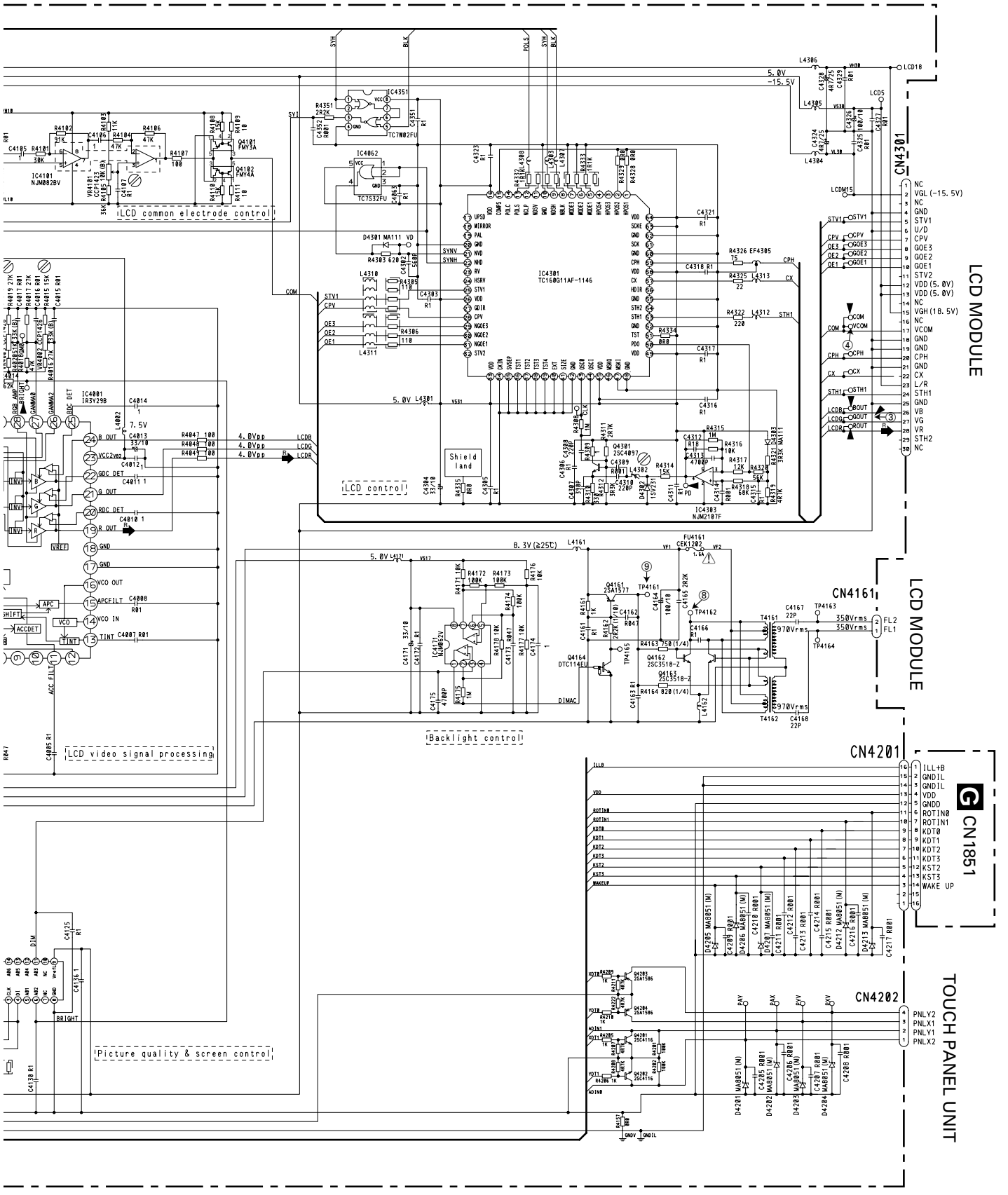

A
CN551
CN1001
LPF
LPF
Lch
Rch
RSC Lch
RSC Rch
IC1001
PD2071A
DSP
IC1051
PD2071A
DSP
MCD: +2.3dBs
AM:-16.8dBs
FM: -7.9dBs
CDDJ: +2.0dBs
MCD: -4.5dBs
AM:-23.6dBs
FM:-14.7dBs
CDDJ: -4.9dBs
(22.5792MHz)
VCC
DSP5V
MAINL
MAINR
RSCL
RSCR
AGND
1/2VCC
VCC4V
MCK
DX


B DSP UNIT
8.5V
VCC
DSP5V(Analoge)
DSP5V(Digital)
IC1001
PD2071A
DSP
IC1051
PD2071A
DSP
DDAC
DDAC
LPF
FL
FR
RL
RR
SW
FLO
FRO
RLO
RRO
SWO
1/2VCC
AGND
GNDA
DGND
DSP5VD1
DSP5VD2
DSP5VA1
DSP5VA2
5VA1
5VA2
140mA MAX
NJM4558MD

3.6 MODULE UNIT



C MODULE UNIT

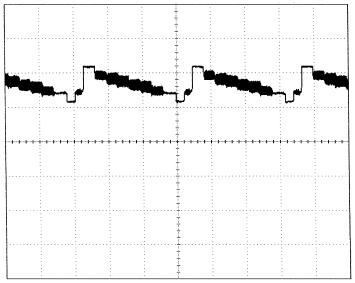


● Waveforms

Note : The encircled numbers denote measuring pointes in the circuit diagram.

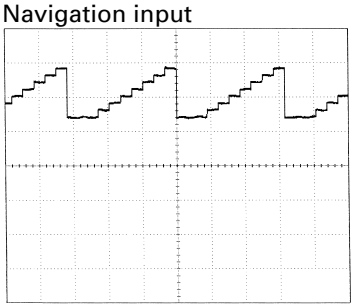
① CH1:TP CSYNC 2V/div. 20μs/div.

Composite Color Bar Signal
TV, VTR input



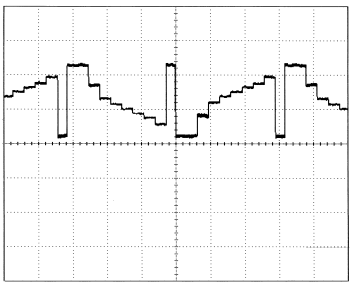
② CH1:TP GIN 500mV/div. 20μs/div.

RIN and BIN are the same as GIN.
RGB 7 Step Signal
Navigation input

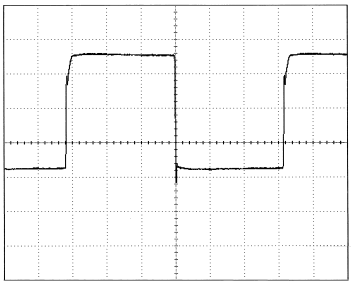


③ CH1:TP GOUT 500mV/div. 1ms/div.

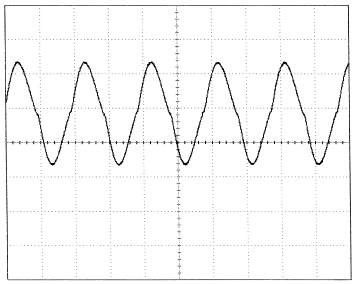
RIN and BIN are the same as GIN.
RGB 7 Step Signal



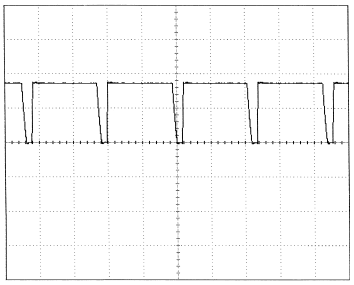
④ CH1:TP VCOM 2V/div. 20μs/div.



⑧ CH1:TP4162 10V/div. 10μs/div.



⑨ CH1:TP4161 5V/div. 5ms/div.



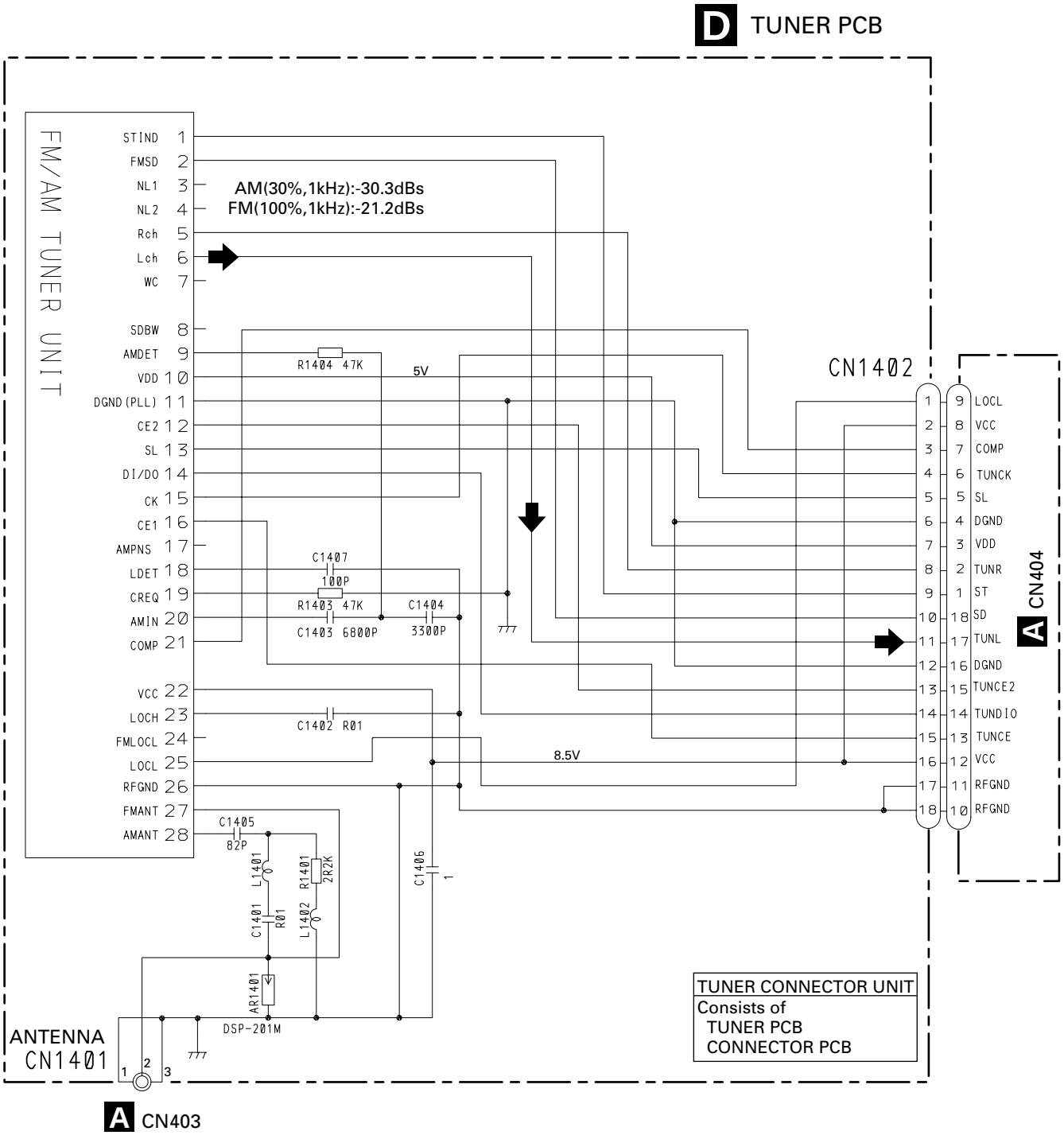
A

B

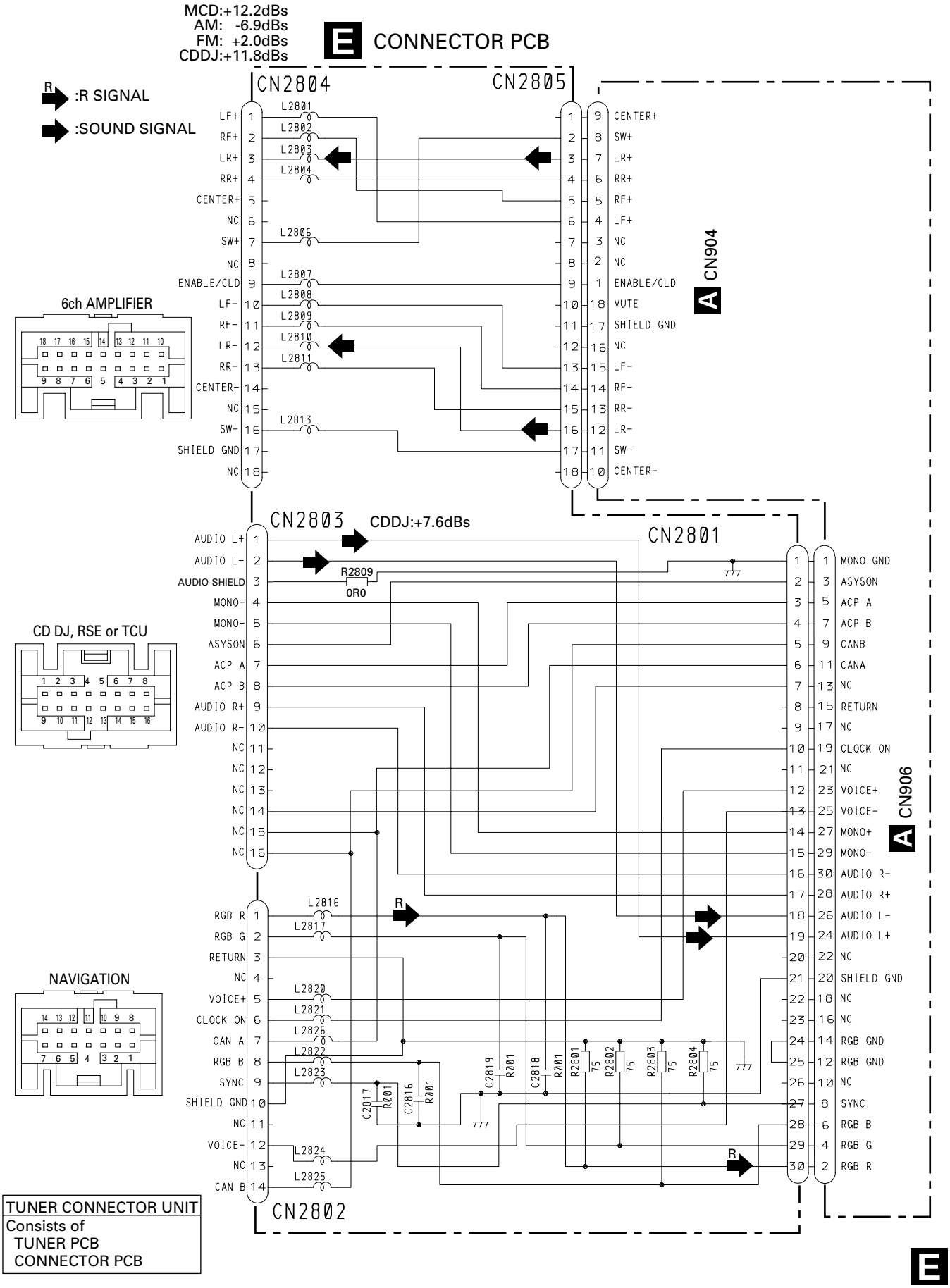
C

D

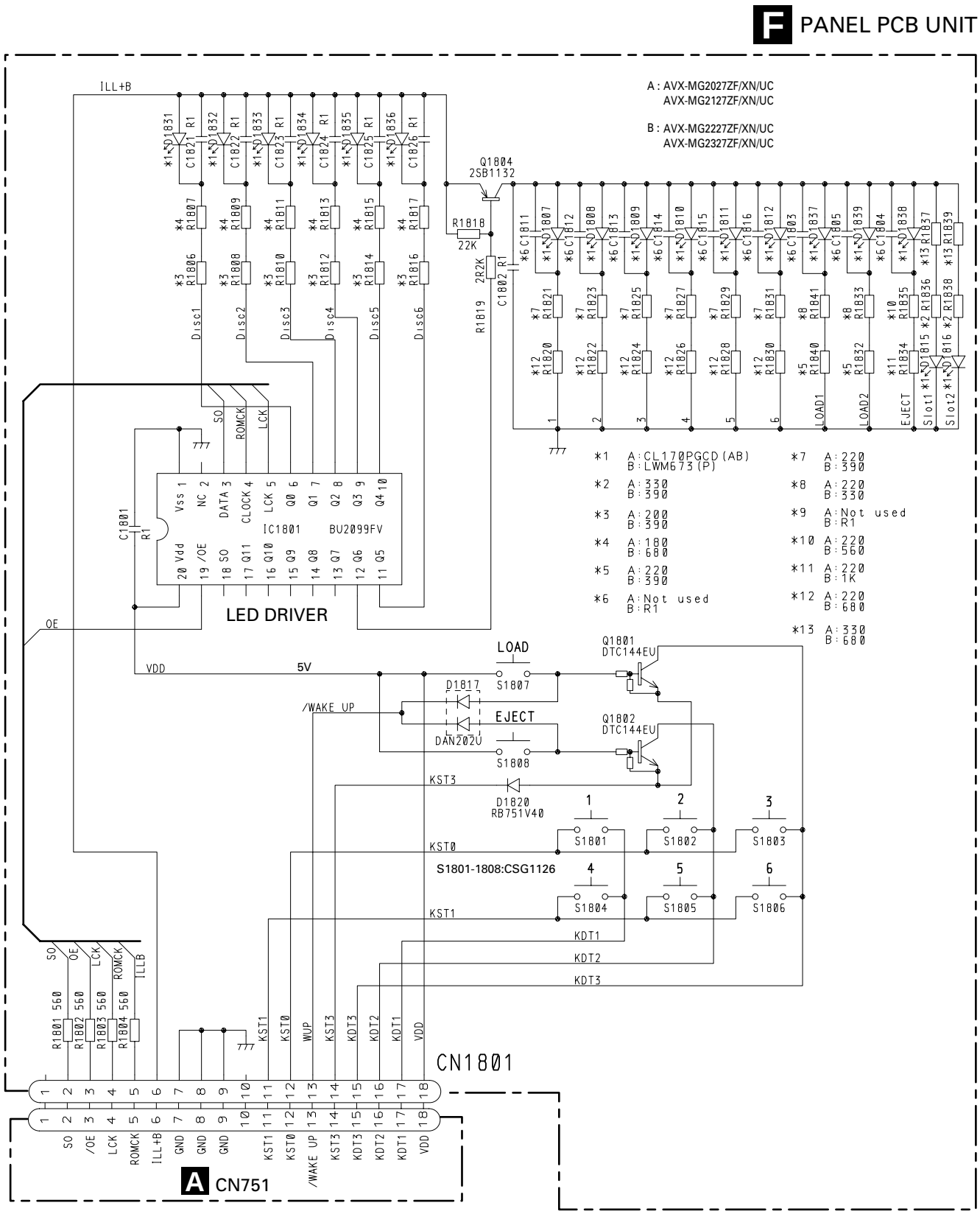
3.7 TUNER PCB


D TUNER PCB
FM/AM TUNER UNIT
STIND 1
FMSD 2
NL1 3
NL2 4
Rch 5
Lch 6
WC 7
SDBW 8
AMDET 9
VDD 10
DGND(PLL) 11
CE2 12
SL 13
DI/DO 14
CK 15
CE1 16
AMPNS 17
LDET 18
CREQ 19
AMIN 20
COMP 21
VCC 22
LOCH 23
FMLOCL 24
LOCL 25
RFGND 26
FMANT 27
AMANT 28
AM(30%,1kHz):-30.3dBs
FM(100%,1kHz):-21.2dBs
R1404 47K
5V
C1407
100P
R1403 47K
C1404
C1403 6800P
3300P
C1402 R01
8.5V
C1405
82P
L1401
R1401
2R2K
C1401
R01
L1402
0
C1406
1
AR1401
DSP-201M
ANTENNA
CN1401
1 2 3
A CN403
CN1402
1 9 LOCL
2 8 VCC
3 7 COMP
4 6 TUNCK
5 5 SL
6 4 DGND
7 3 VDD
8 2 TUNR
9 1 ST
10 18 SD
11 17 TUNL
12 16 DGND
13 15 TUNCE2
14 14 TUNDIO
15 13 TUNCE
16 12 VCC
17 11 RFGND
18 10 RFGND
A CN404
TUNER CONNECTOR UNIT
Consists of
TUNER PCB
CONNECTOR PCB

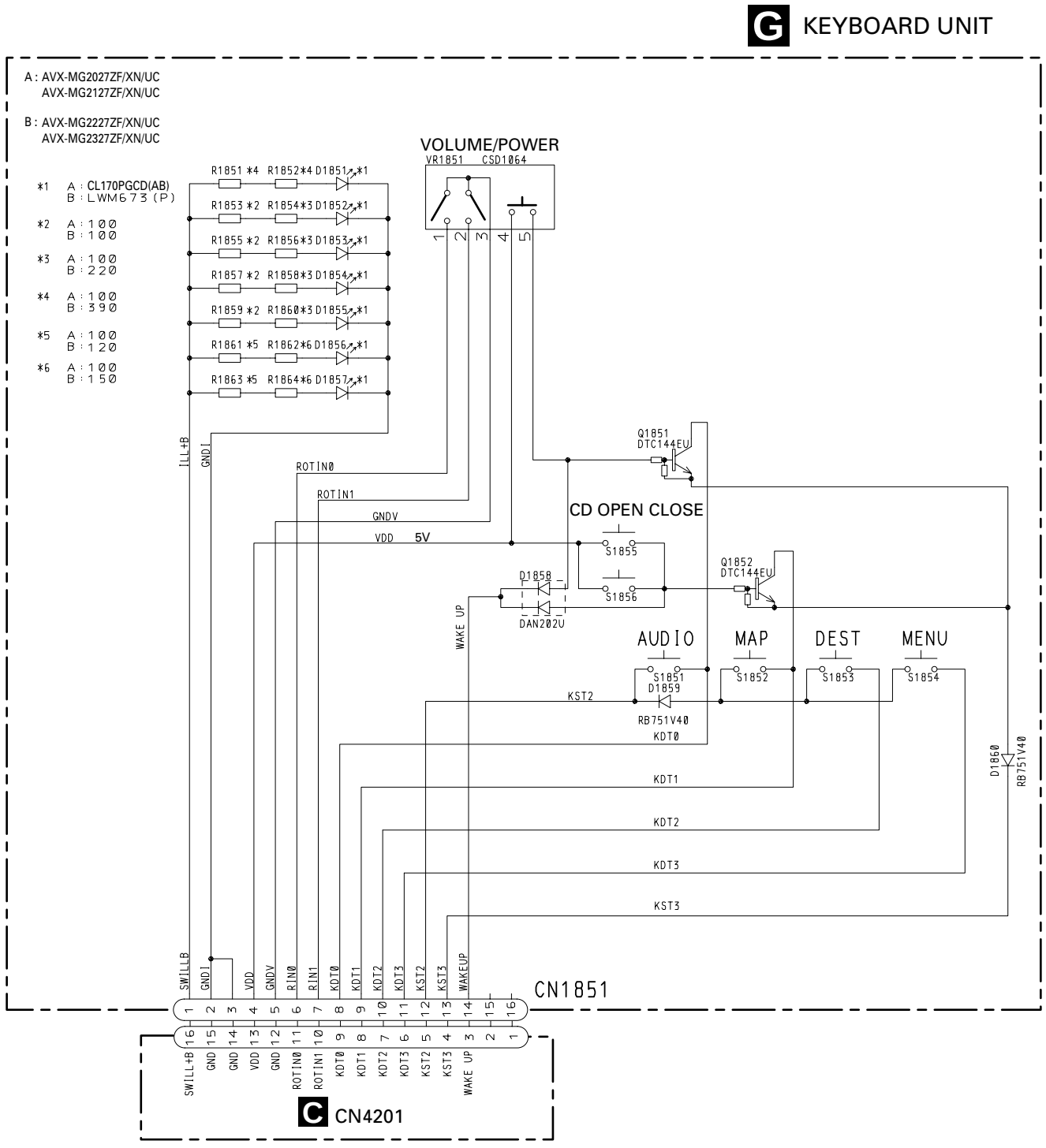
3.8 CONNECTOR PCB



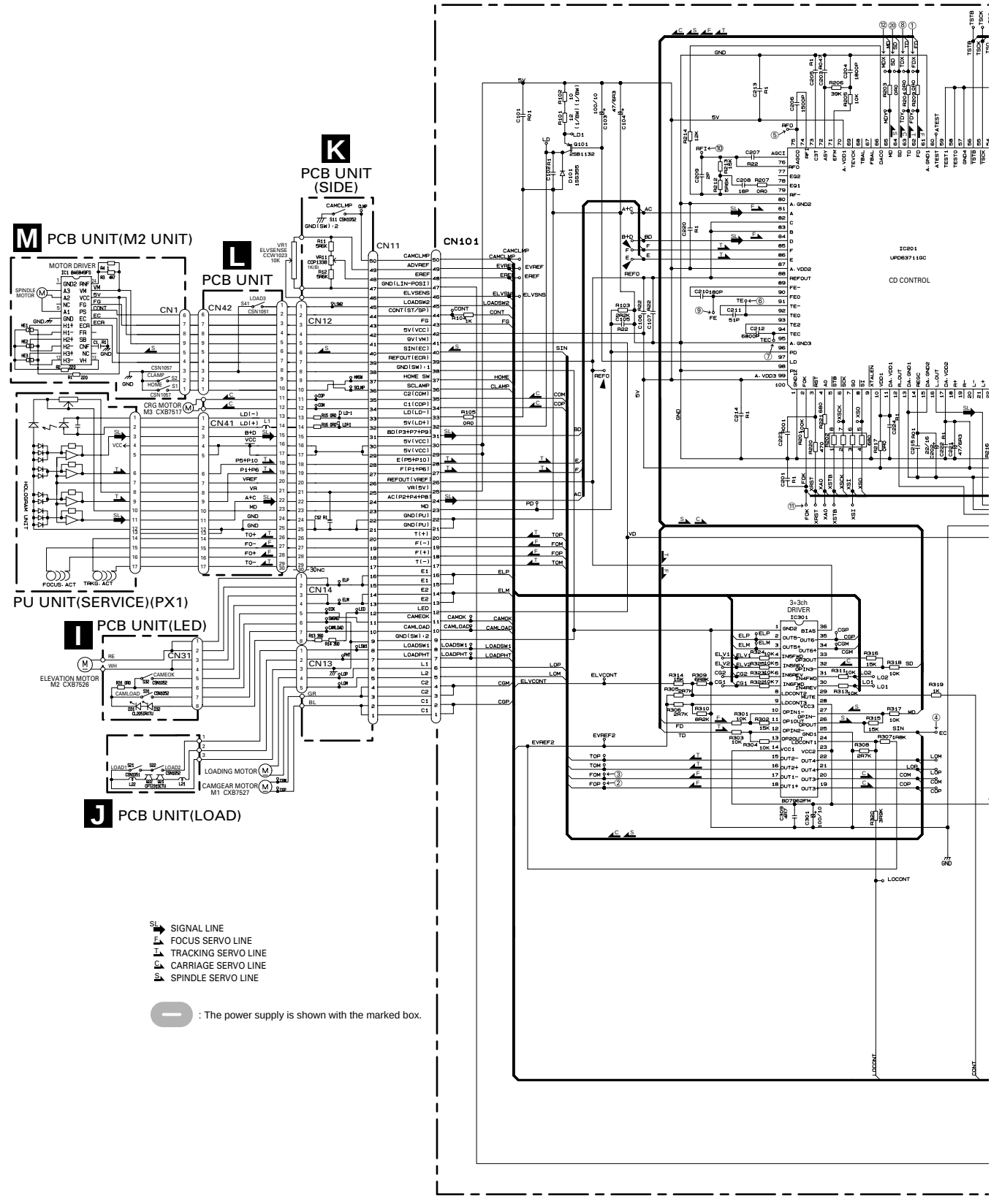
3.9 PANEL PCB UNIT



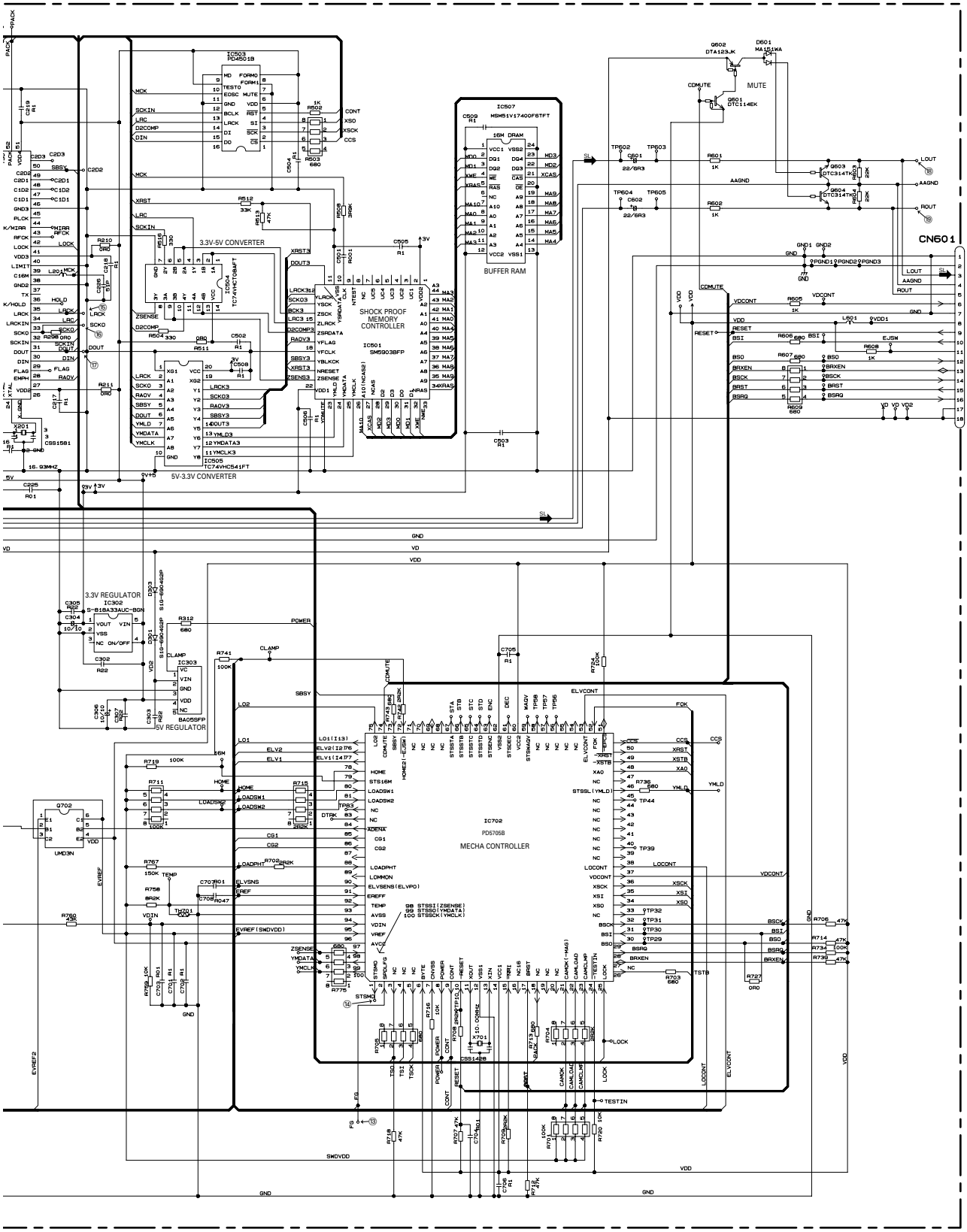
3.10 KEYBOARD UNIT

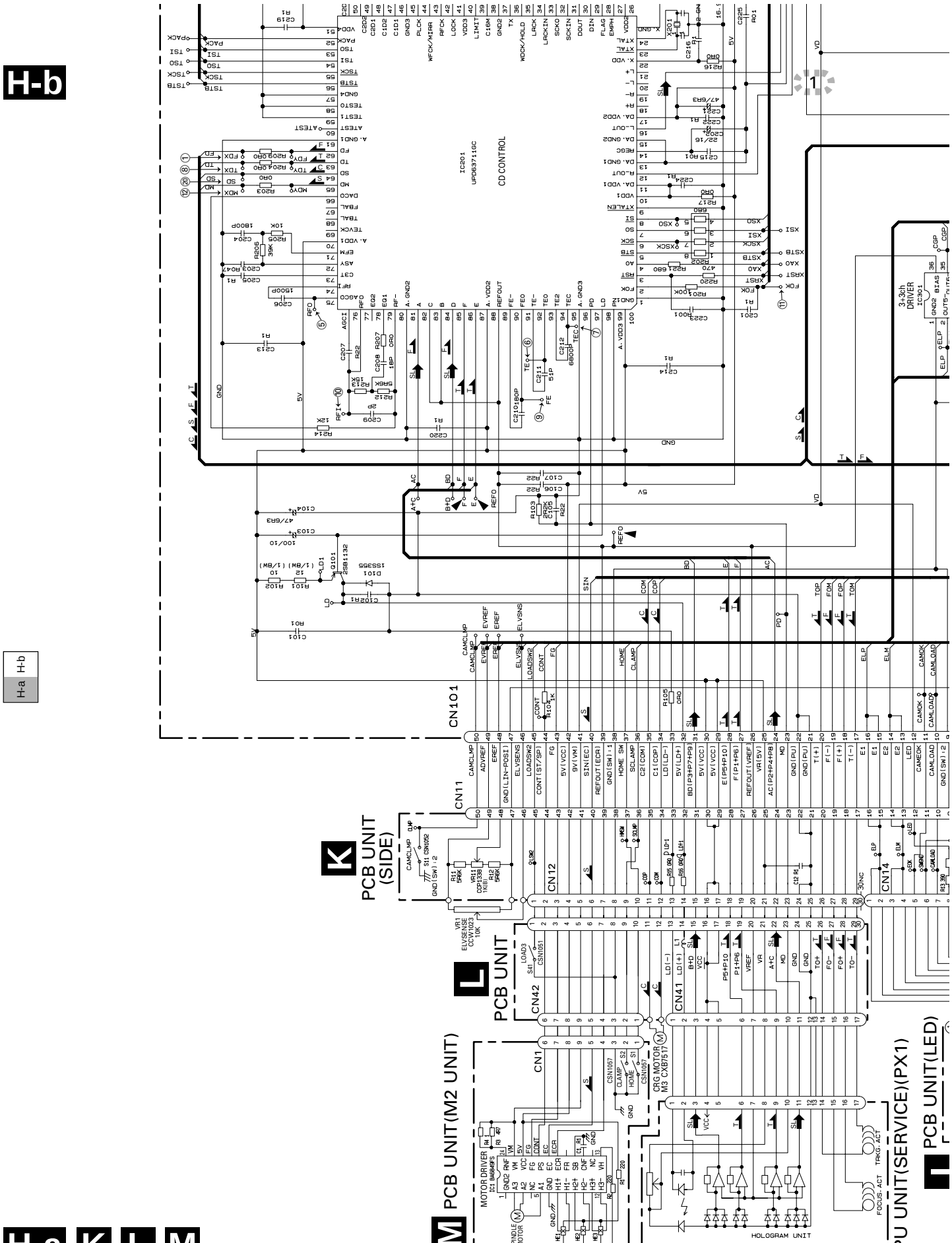


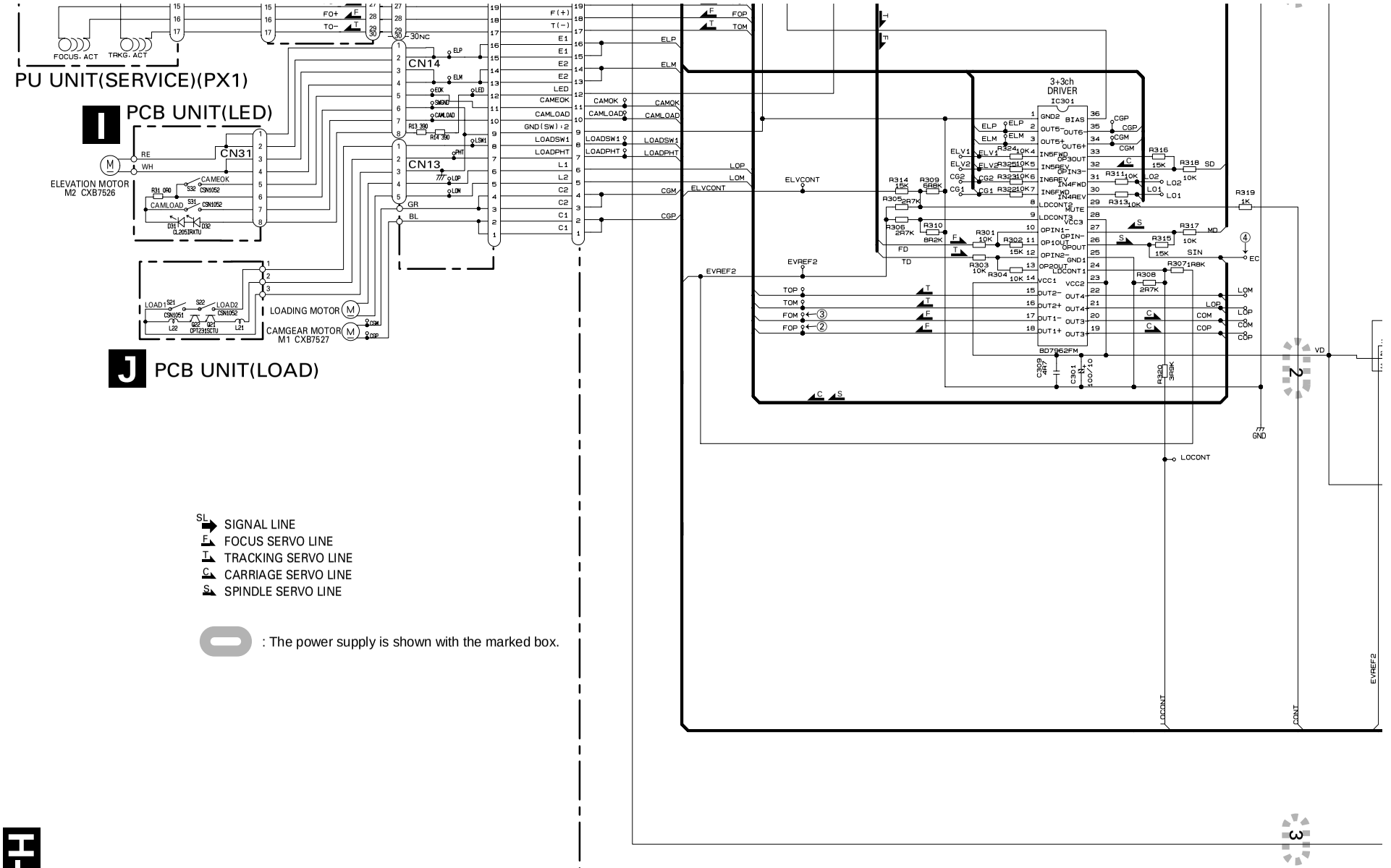
3.11 CD MECHANISM MODULE(G2F)(GUIDE PAGE)



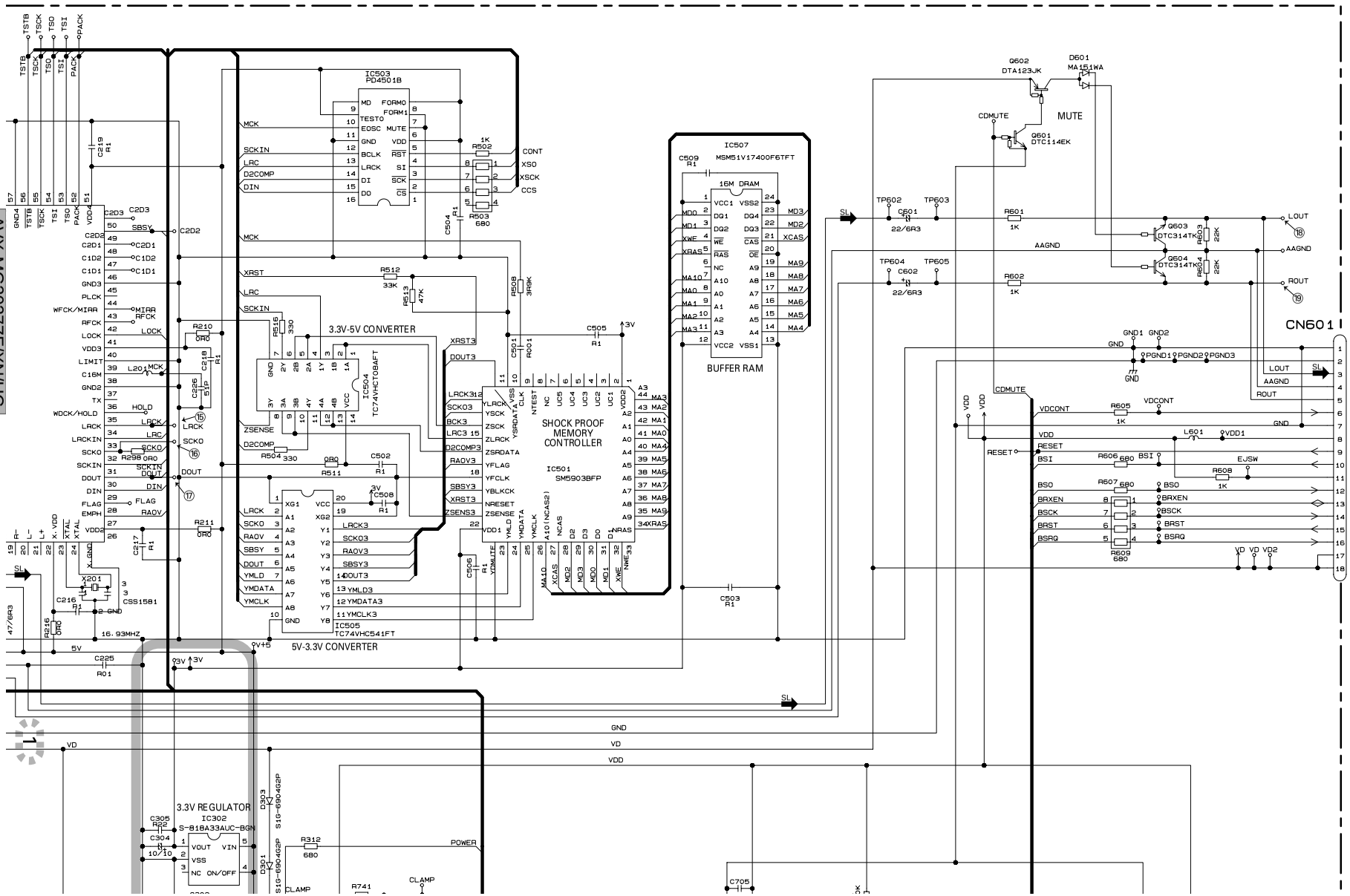
H CONTROL UNIT(G2F)

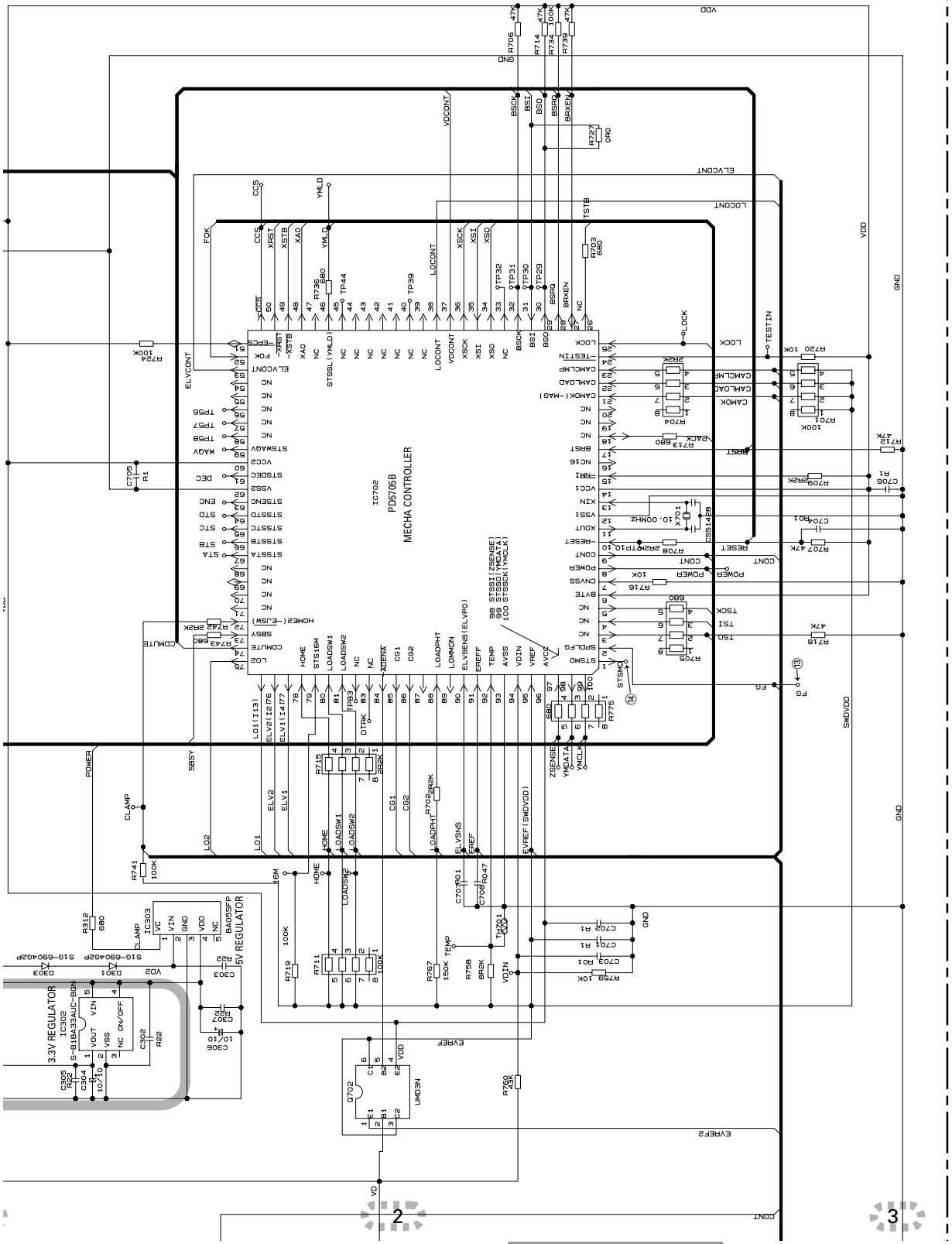



H-b
H-a H-b
H-a K L M
CD CONTROL
IC201
UPD63711GC
CN101
CN11
CN12
CN14
CN42
CN41
CN1
PCB UNIT (SIDE)
PCB UNIT
PCB UNIT(M2 UNIT)
PU UNIT(SERVICE)(PX1)
PCB UNIT(LED)
CRG MOTOR
M3 CXB7517
MOTOR DRIVER
IC1 BA6846FS
SPINDLE MOTOR
HOLOGRAM UNIT
3+3ch DRIVER
IC301
CN301
FOCUS: ACT
TRKG: ACT


PU UNIT(SERVICE)(PX1)
I PCB UNIT(LED)
J PCB UNIT(LOAD)
FOCUS. ACT
TRKG. ACT
CN14
CN31
CN13
ELEVATION MOTOR
M2 CXB7526
LOADING MOTOR
CAMGEAR MOTOR
M1 CXB7527
3+3ch
DRIVER
IC301
BD7962FM
ELVCONT
EVREF2
LOCONT
SL SIGNAL LINE
F FOCUS SERVO LINE
T TRACKING SERVO LINE
C CARRIAGE SERVO LINE
S SPINDLE SERVO LINE
: The power supply is shown with the marked box.

H CONTROL UNIT(G2F)

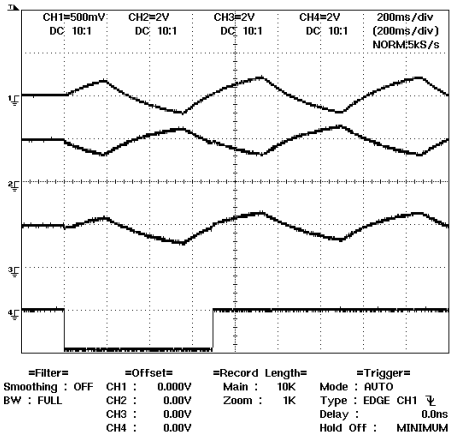



IC702
PD5706B
MECHA CONTROLLER
3.3V REGULATOR
IC302
S-818A33AUC-BGN
5V REGULATOR
BA05SFP
IC303
3
2

Note: The encircled numbers denote measuring points in the circuit diagram.

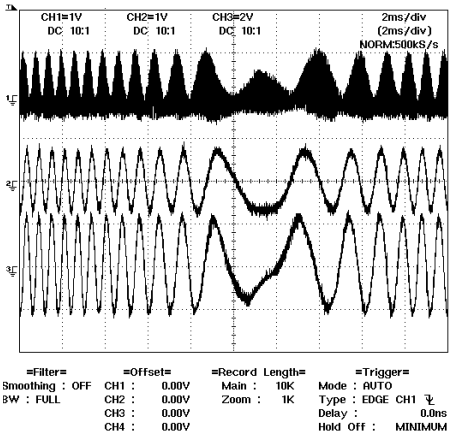
CH1 : ① FDX Mode:Test
CH2 : ② FOP
CH3 : ③ FOM
CH4 : ④ EC

Focus search mode



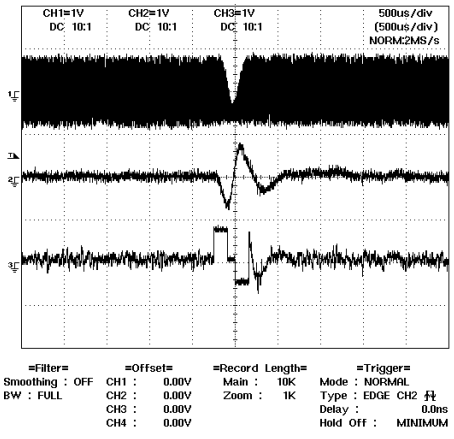
CH1 : ⑤ RFO Mode:Test
CH2 : ⑥ TE
CH3 : ⑦ TEC

Tracking open



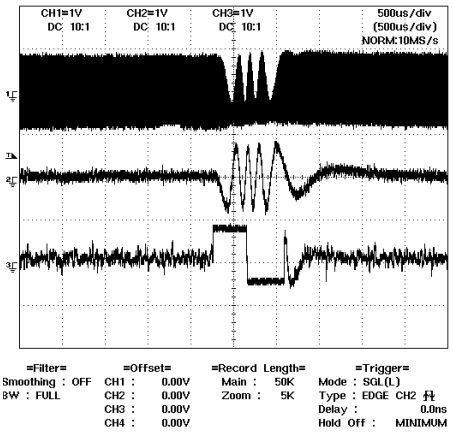
CH1 : ⑤ RFO Mode:Test
CH2 : ⑥ TE
CH3 : ⑧ TDX

1 Track Jump



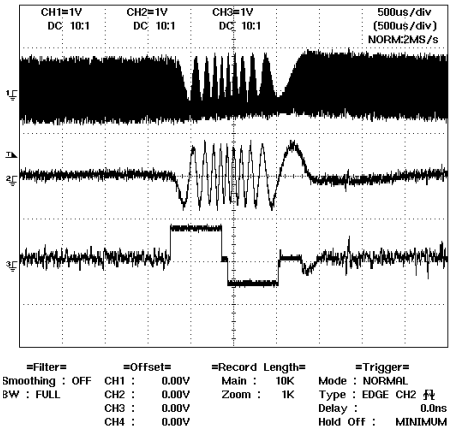
CH1 : ⑤ RFO Mode:Test
CH2 : ⑥ TE
CH3 : ⑧ TDX

4 Track Jump



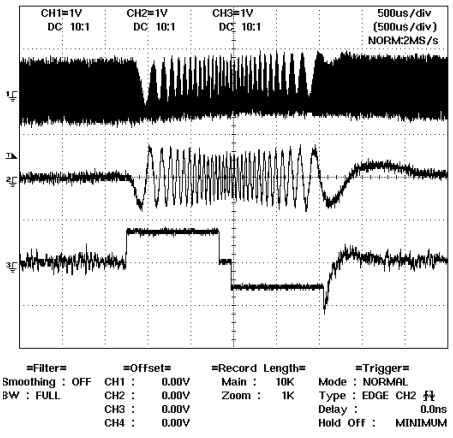
CH1 : ⑤ RFO Mode:Test
CH2 : ⑥ TE
CH3 : ⑧ TDX

10 Track Jump



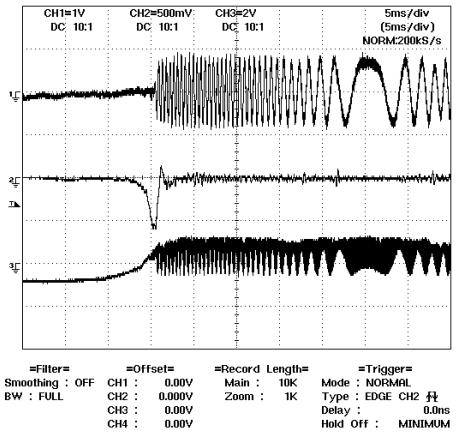
CH1 : ⑤ RFO Mode:Test
CH2 : ⑥ TE
CH3 : ⑧ TDX

32 Track Jump



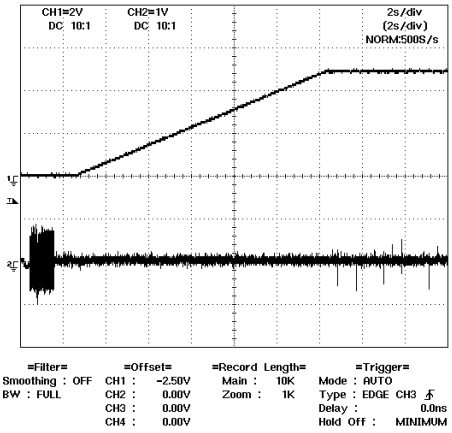
CH1 : ⑥ TE Mode:Normal
CH2 : ⑨ FE
CH3 : ⑩ RFI

Focus close



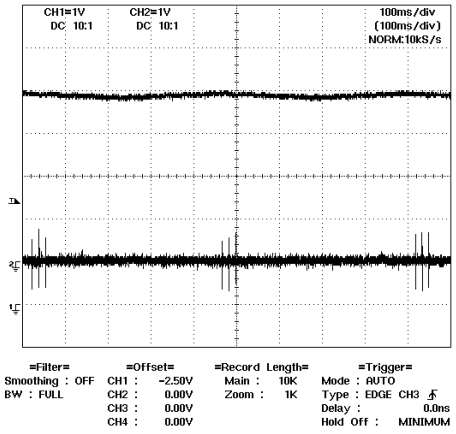
CH1 : ⑭ STSMO Mode:Normal
CH2 : ⑥ TE

Memory capacity (remaining) at the starting of PLAY



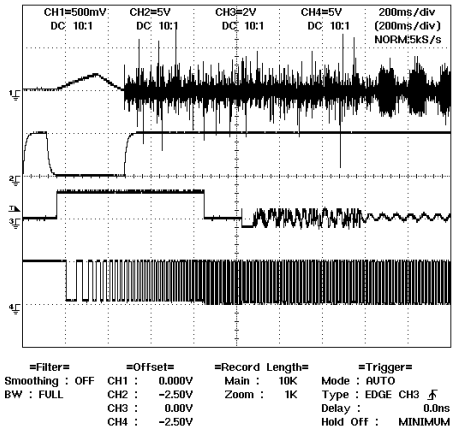
CH1 : ⑭ RFO Mode:Normal
CH2 : ⑥ TE

Memory capacity (remaining) during PLAY



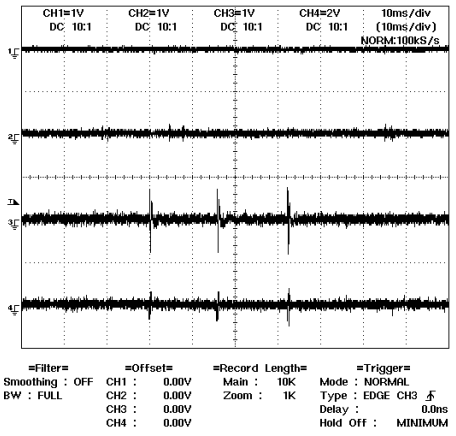
CH1 : ① FDX Mode:Normal
CH2 : ⑪ FOK
CH3 : ⑫ MDX
CH4 : ⑬ FG

Setup



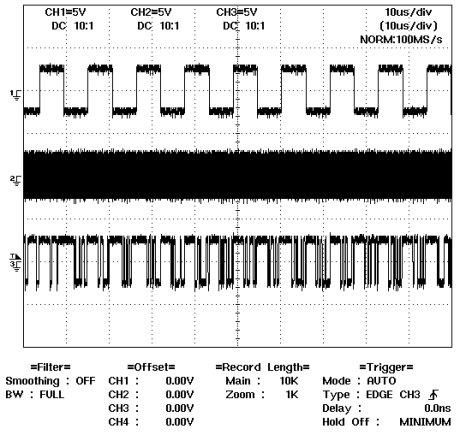
CH1 : ⑨ FE Mode:Normal
CH2 : ① FDX
CH3 : ⑥ TE
CH4 : ⑧ TDX

During "Play"



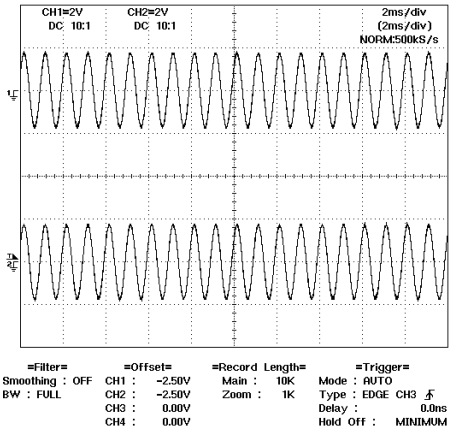
CH1 : ⑮ LRCK Mode:Normal
CH2 : ⑯ SCKO
CH3 : ⑰ DOUT

Digital audio data(x2 speed)

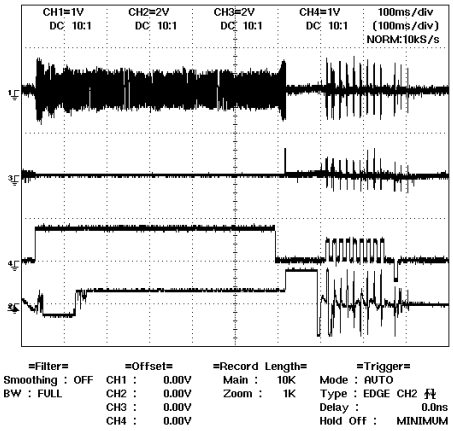


CH1 : ⑱ LOUT Mode:Normal
CH2 : ⑲ ROUT

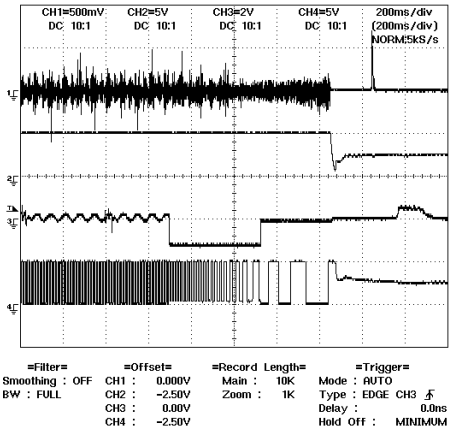
Audio output(1kHz , 0dB)



CH1 : ⑥ TE Mode:Normal
CH2 : ⑧ TDX
CH3 : ⑳ SD
CH4 : ④ EC
During inside / outside search



CH1 : ① FDX Mode:Normal
CH2 : ⑪ FOK
CH3 : ⑫ MDX
CH4 : ⑬ FG
DISC stop



A

B

C

D

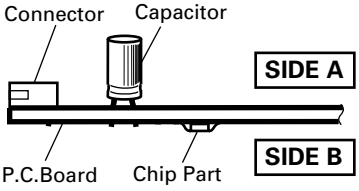
4. PCB CONNECTION DIAGRAM

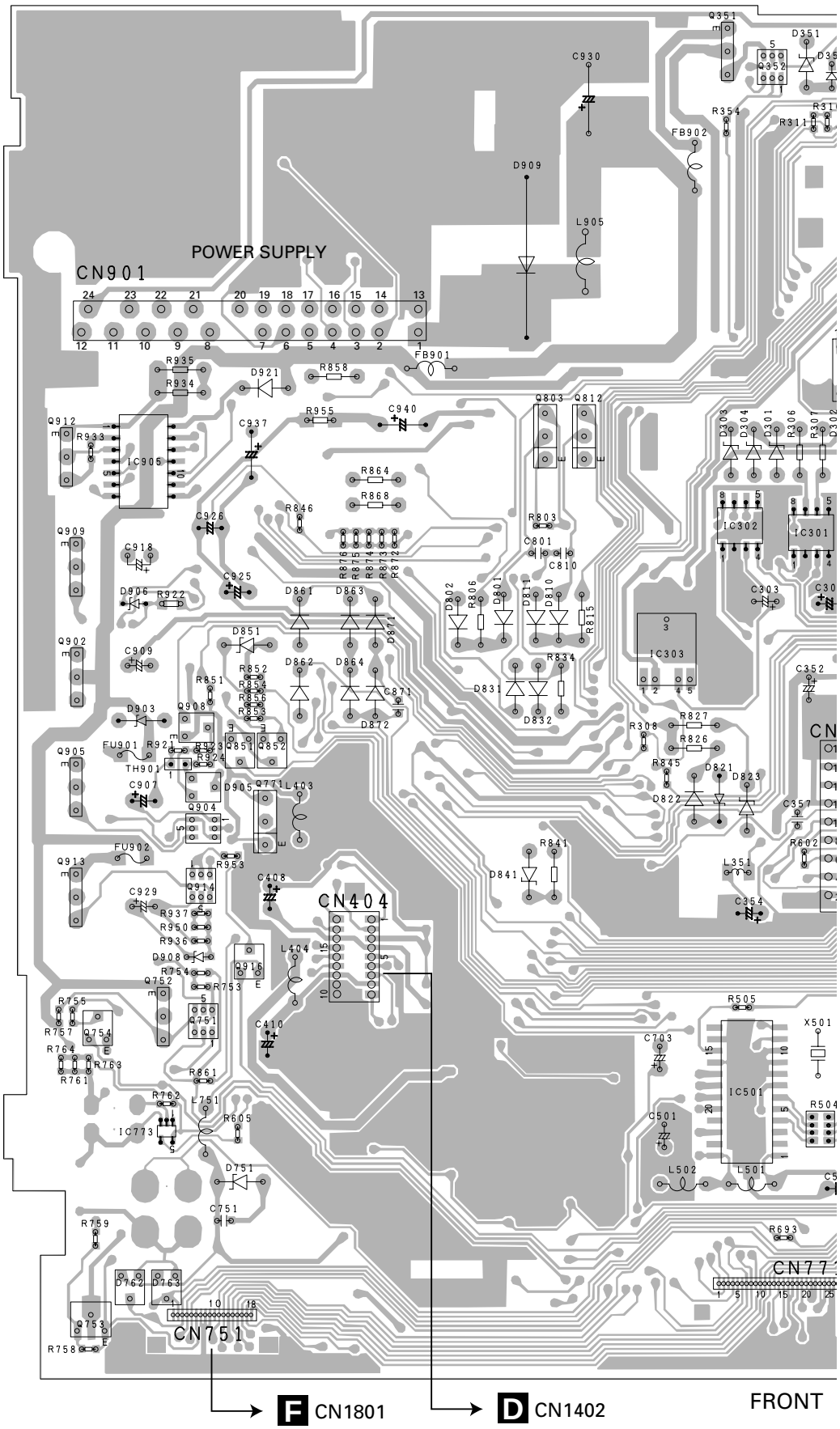
4.1 TUNER AUDIO UNIT

A TUNER AUDIO UNIT

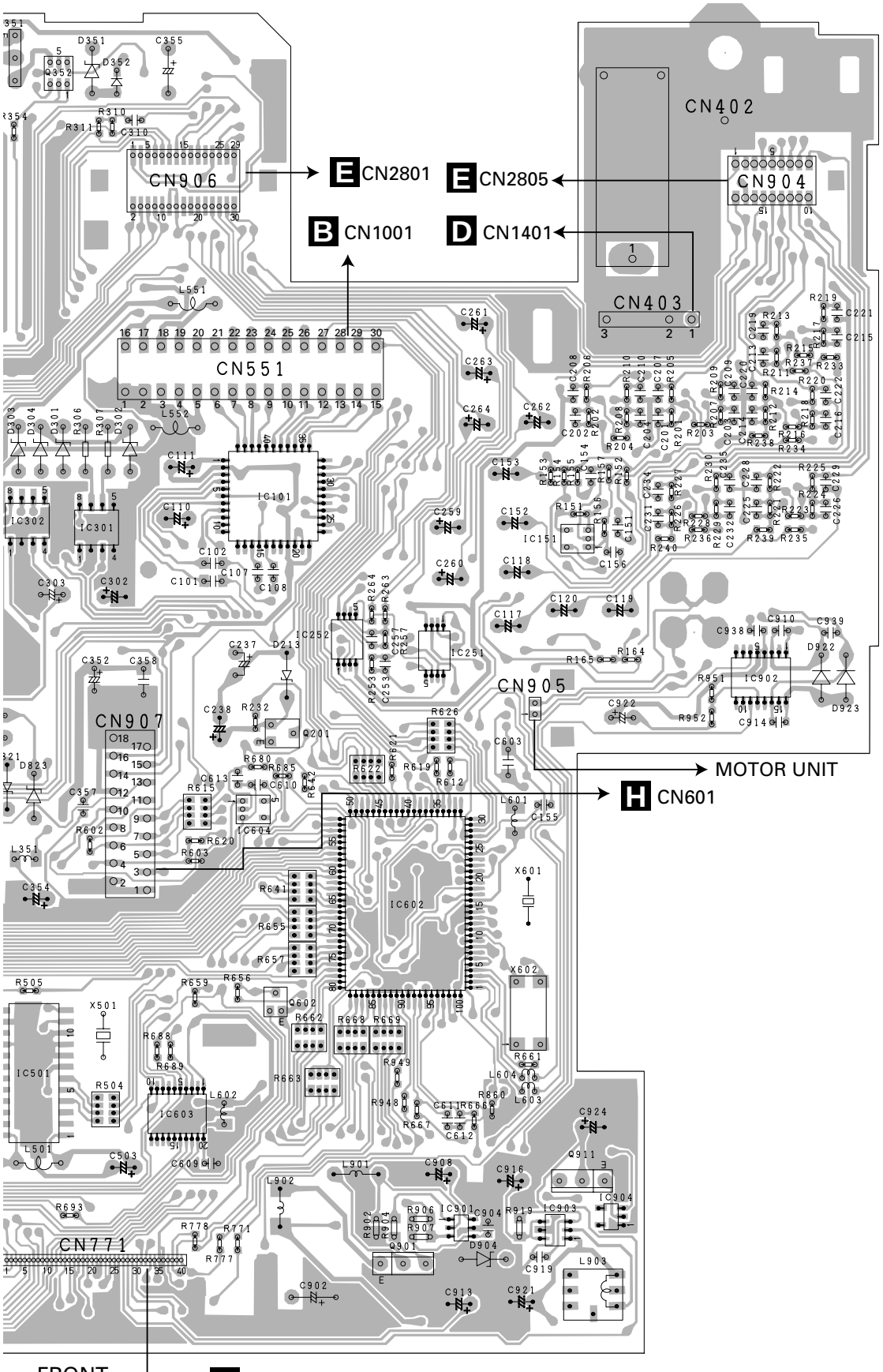
NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination. For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams





SIDE A



IC,Q

Q351

Q352

Q803 Q812

Q912

IC905

IC101

IC302 Q909 IC301

IC151

IC252

IC251

Q902 IC303

IC902

Q908

Q201 Q851 Q852

Q905

Q771

Q904

IC604

Q913

Q914

IC602

Q916

Q752

Q751 Q602

Q754

IC501

IC773 IC603

Q911

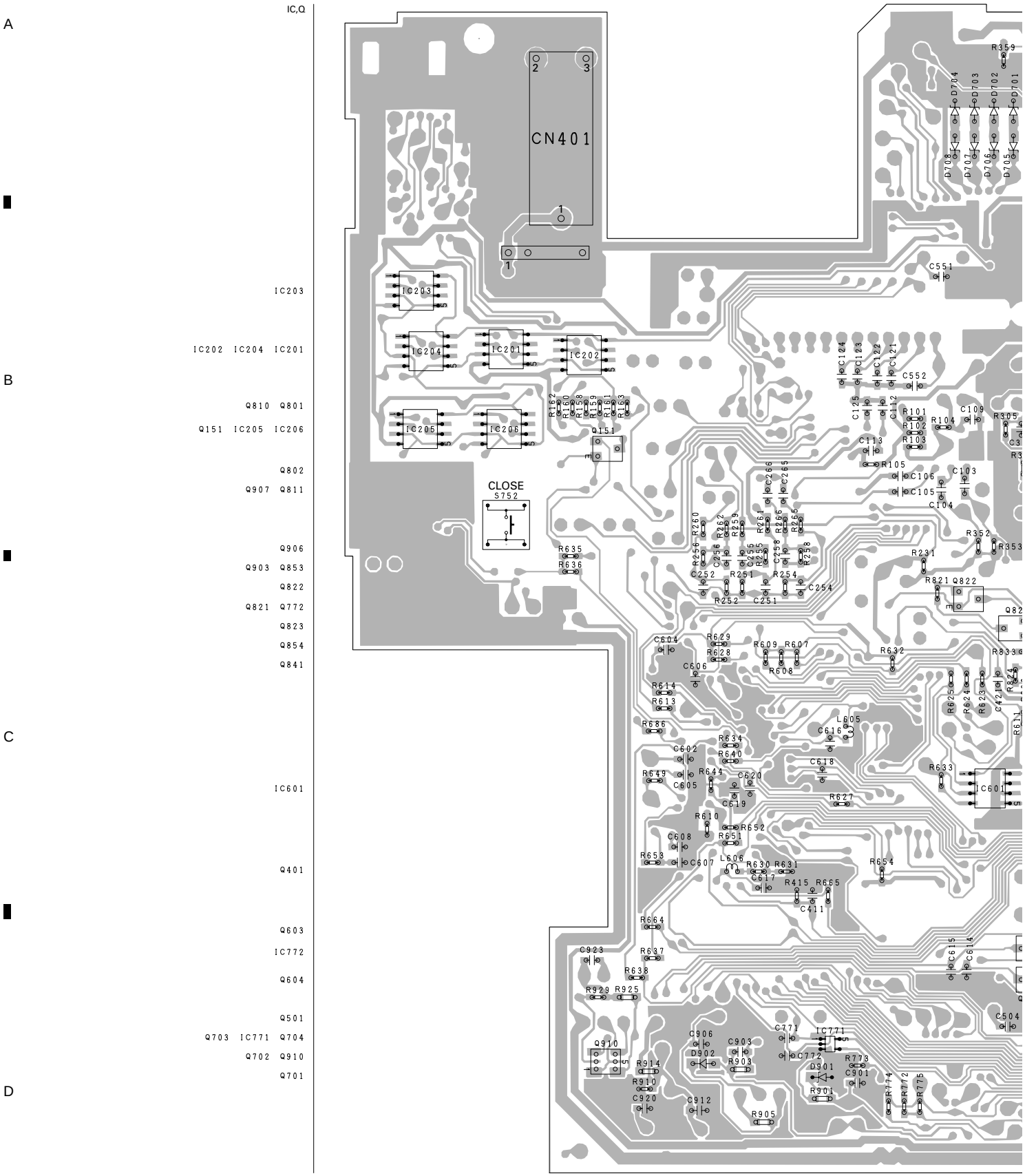
IC904

IC903 IC901

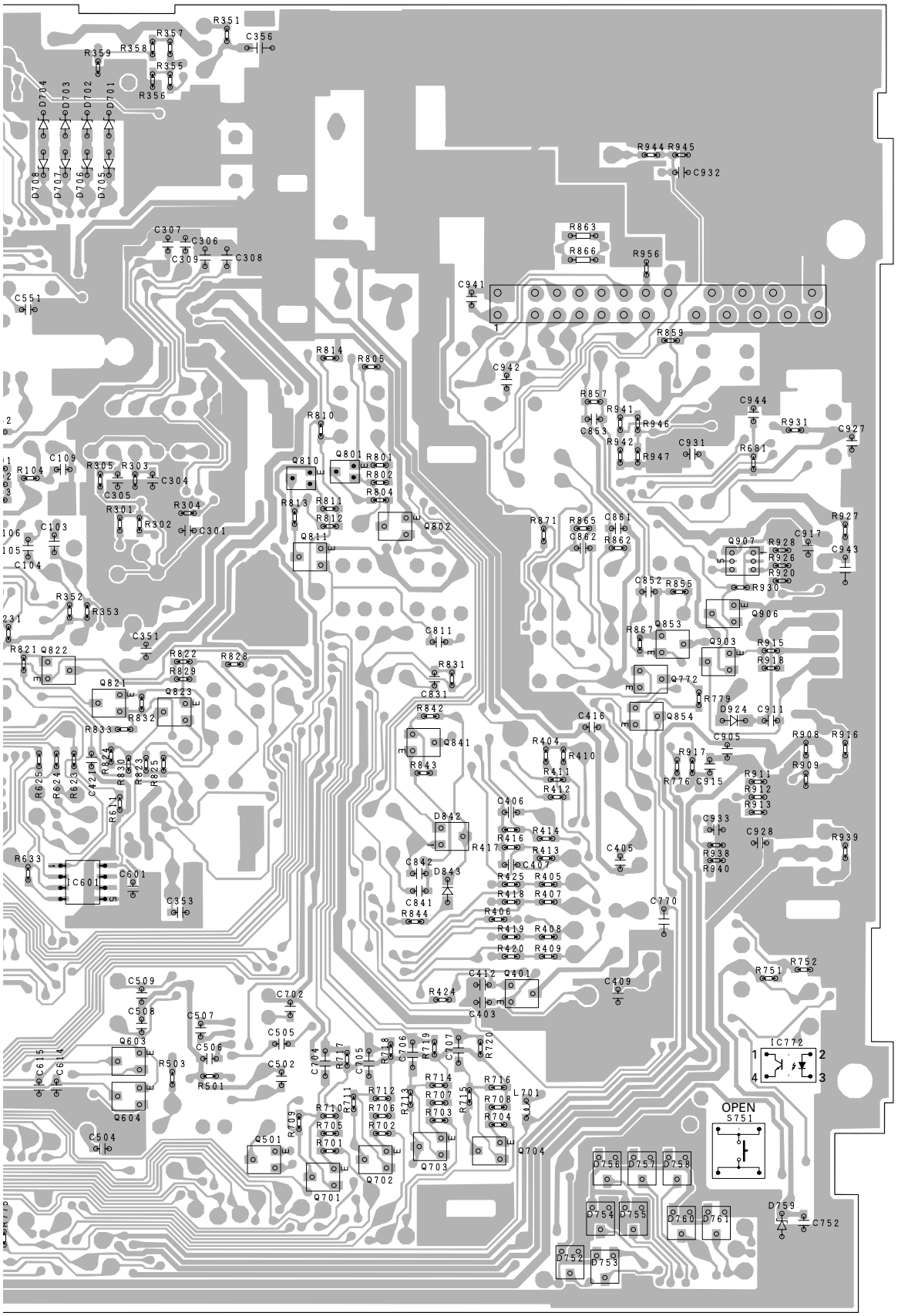
Q901

Q753

A TUNER AUDIO UNIT



SIDE B


R351
C356
R357
R358
R359
R355
R356
D704
D703
D702
D701
D708
D707
D706
D705
C307
C306
C309
C308
C551
R944
R945
C932
R863
R866
R956
C941
R859
C942
R814
R805
R810
R857
R941
C853
R946
R942
R947
C931
C944
R931
C927
R691
C109
R104
R305
R303
C304
C305
R301
R302
C301
R304
C103
C104
R813
R811
R812
Q810
Q801
R801
R802
R804
Q811
Q802
R871
R865
C862
C861
R862
Q907
R928
R926
R920
R930
C917
C943
R927
Q852
R855
Q906
R867
Q853
Q903
R915
R918
Q772
R779
D924
C911
C854
C905
R917
R776
C915
R908
R916
R909
R911
R912
R913
C933
C928
R939
R938
R940
C770
C409
R752
R751
C412
Q401
R424
C403
C416
R404
R410
R411
R412
C406
R414
R416
R417
C407
R413
C405
R425
R405
R418
R407
R406
R419
R408
R420
R409
D842
C842
D843
C841
R844
Q841
R843
R831
C831
C811
R821
Q822
R822
R829
R828
Q821
Q823
R832
R833
R824
R830
R823
R825
C421
R611
R625
R624
R623
R633
IC601
C601
C353
C351
R352
R353
C509
C508
C507
C506
C502
C505
C702
Q603
Q604
R503
R501
C615
C614
C504
Q501
R703
C704
R717
C705
R718
C706
R719
C707
R720
R714
R712
R707
R715
R716
L701
R708
R704
R710
R706
R703
R705
R702
R701
Q701
Q702
Q703
Q704
IC772
OPEN
S751
D756
D757
D758
D754
D755
D760
D761
D759
C752
D752
D753

4.2 MODULE UNIT

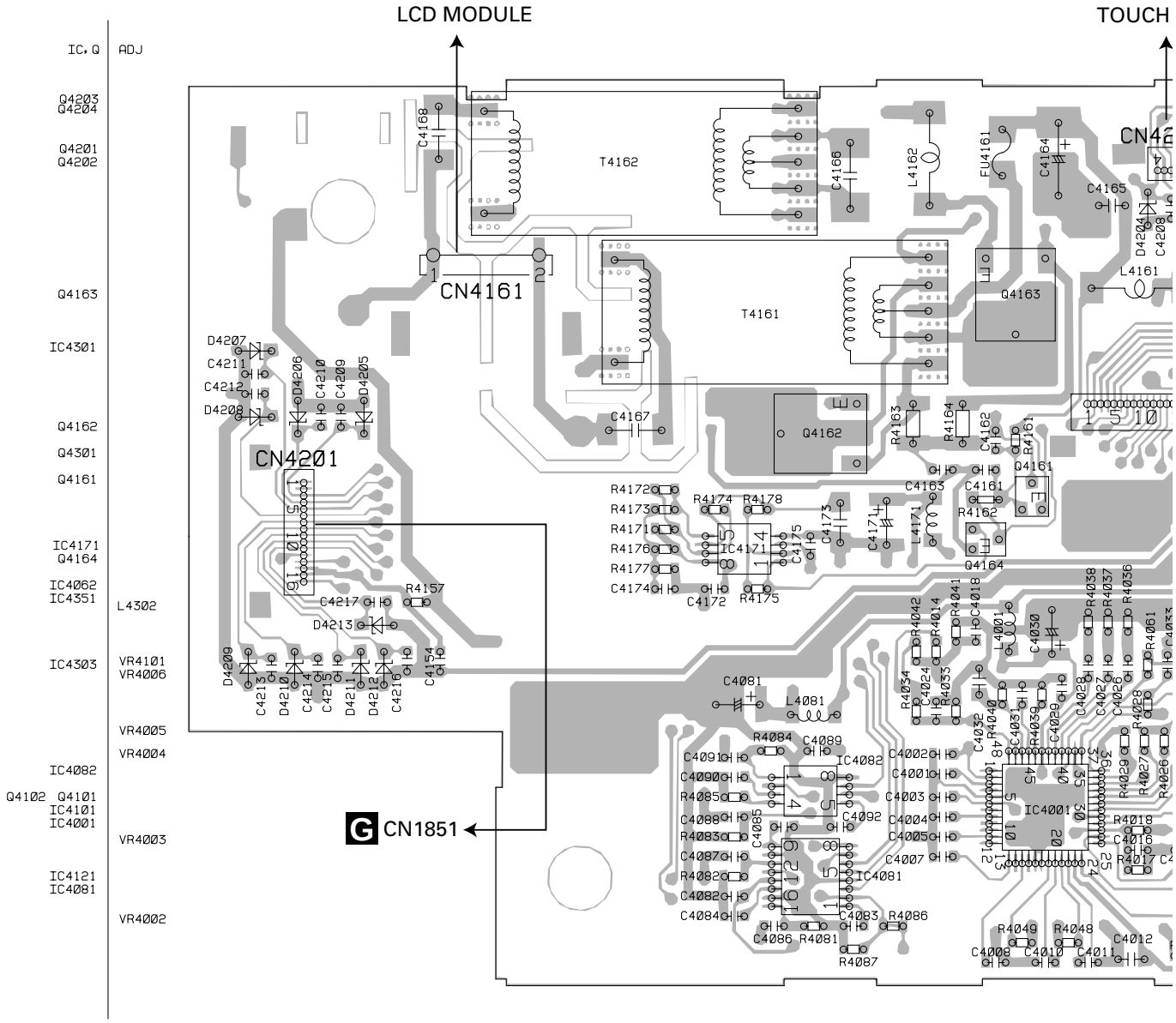
A

B

C

D

C MODULE UNIT



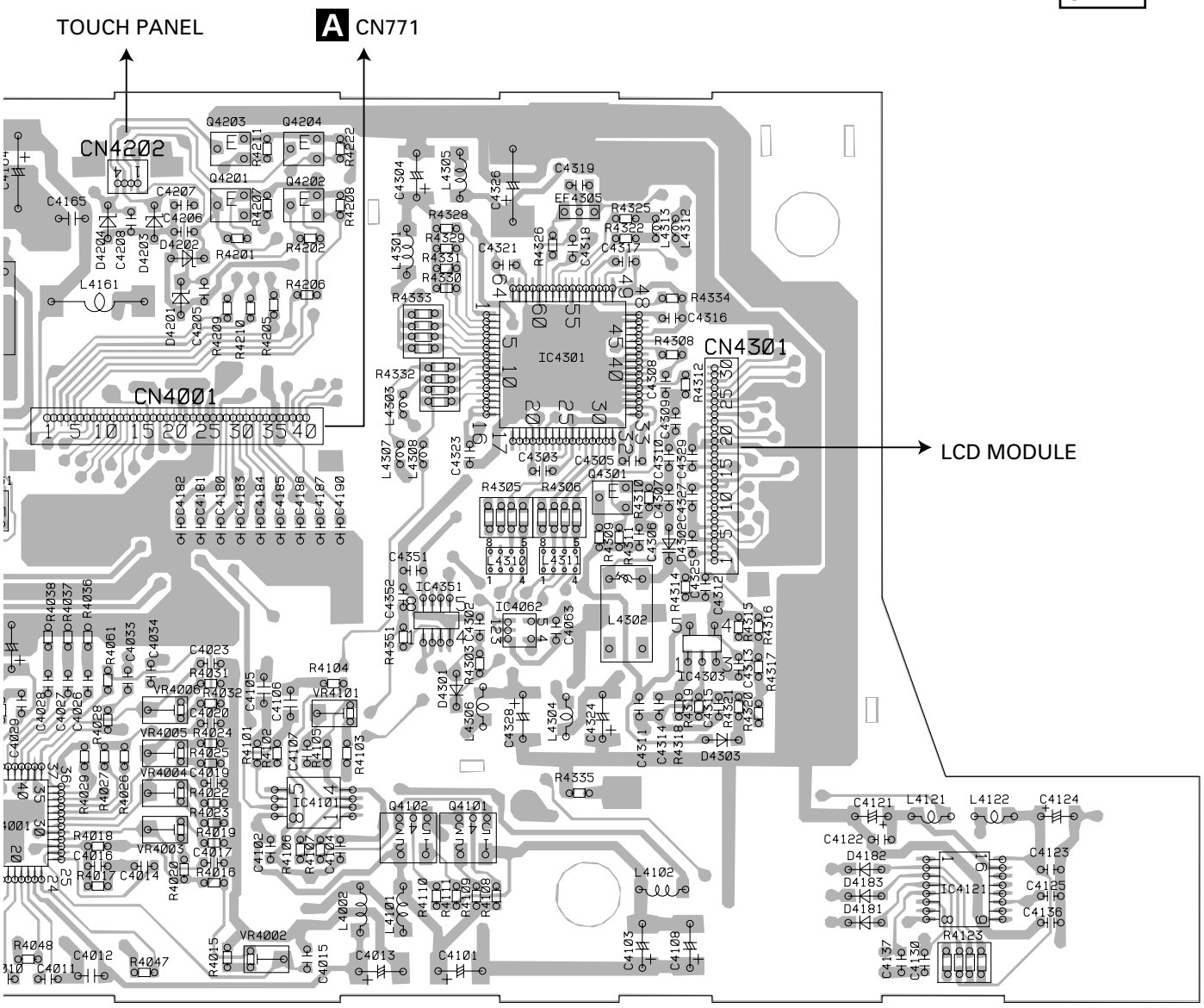
A

B

C

D

SIDE A



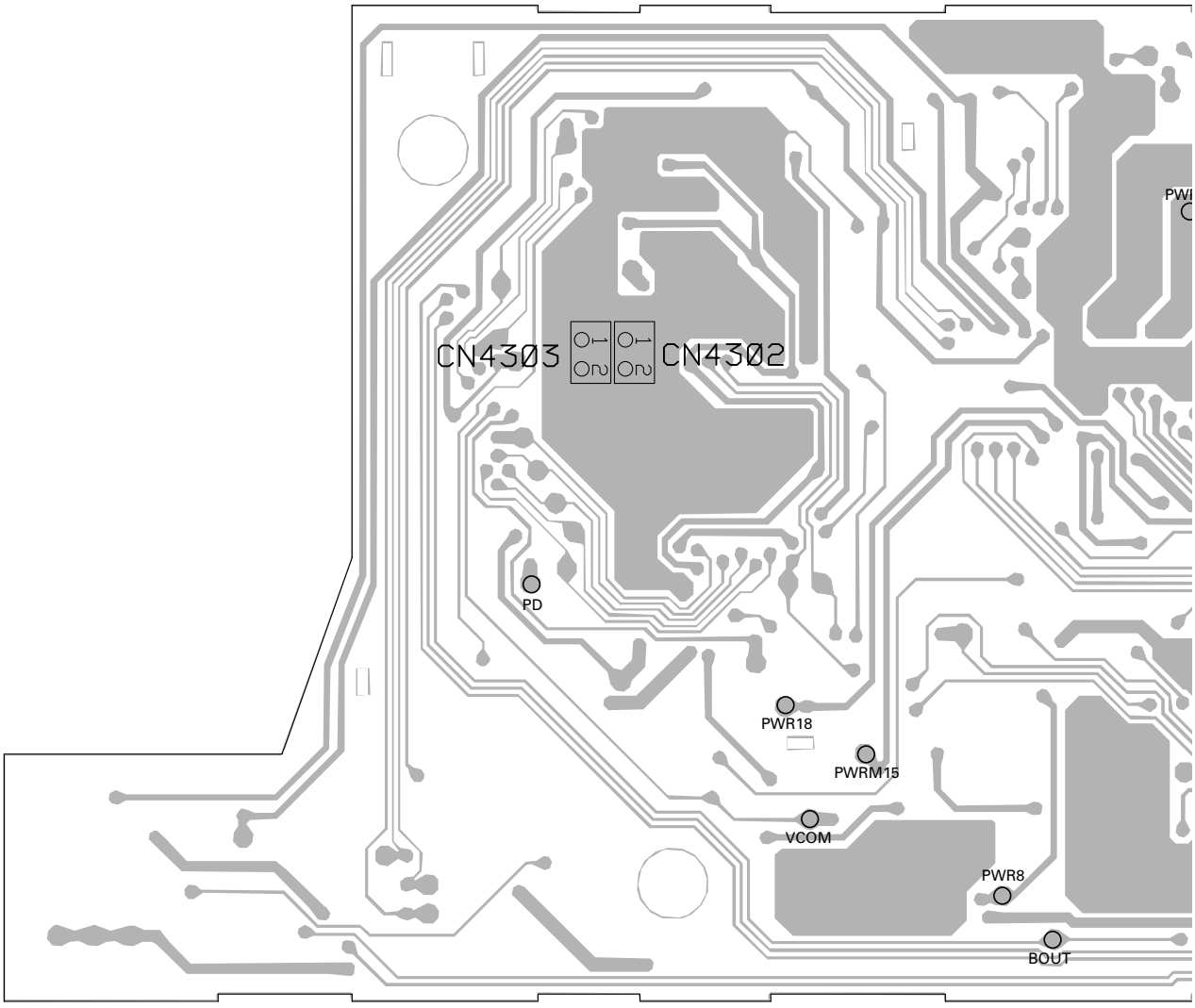
A

B

C

D

C MODULE UNIT



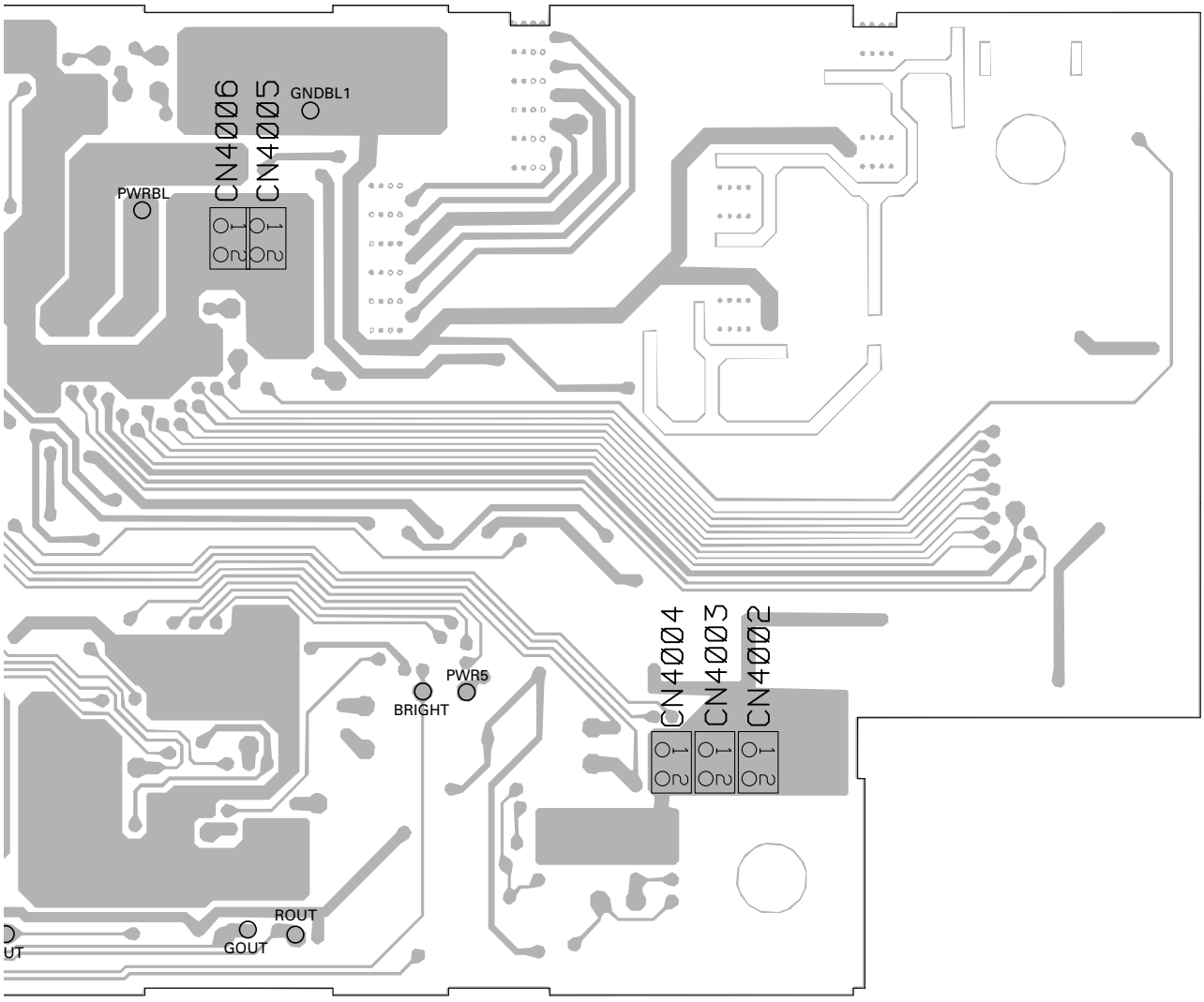
A

B

C

D

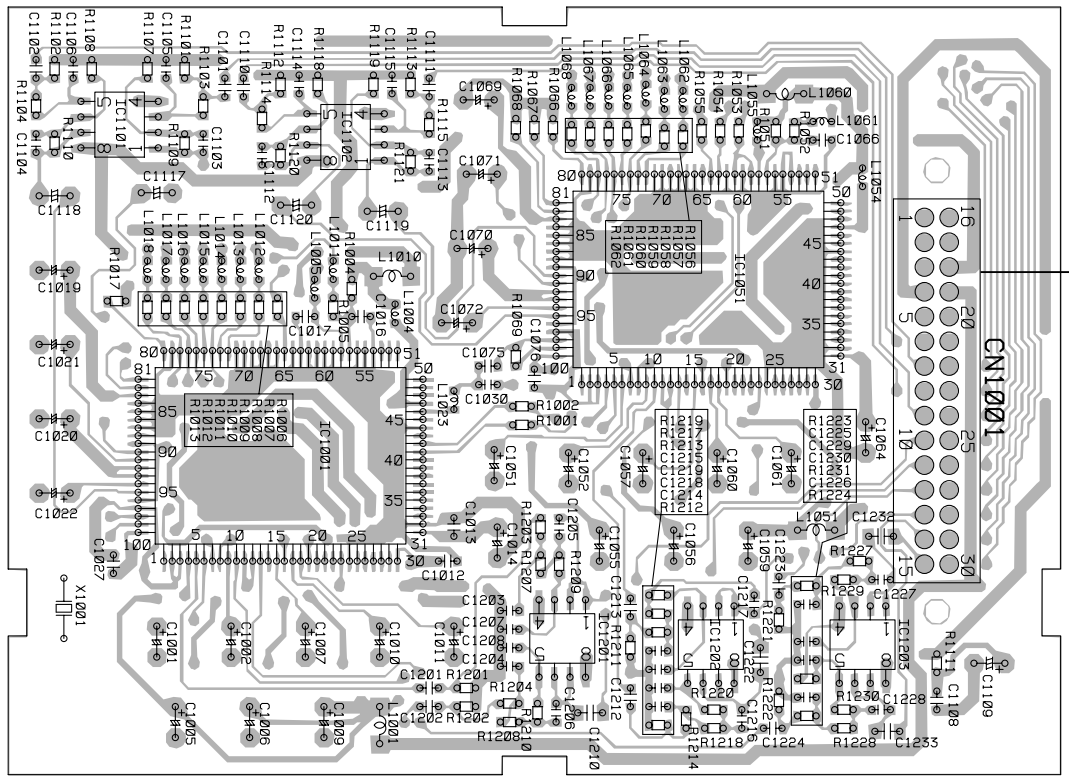
SIDE B


CN4006
CN4005
GNDBL1
PWRBL
CN4004
CN4003
CN4002
PWR5
BRIGHT
ROUT
GOUT

4.3 DSP UNIT

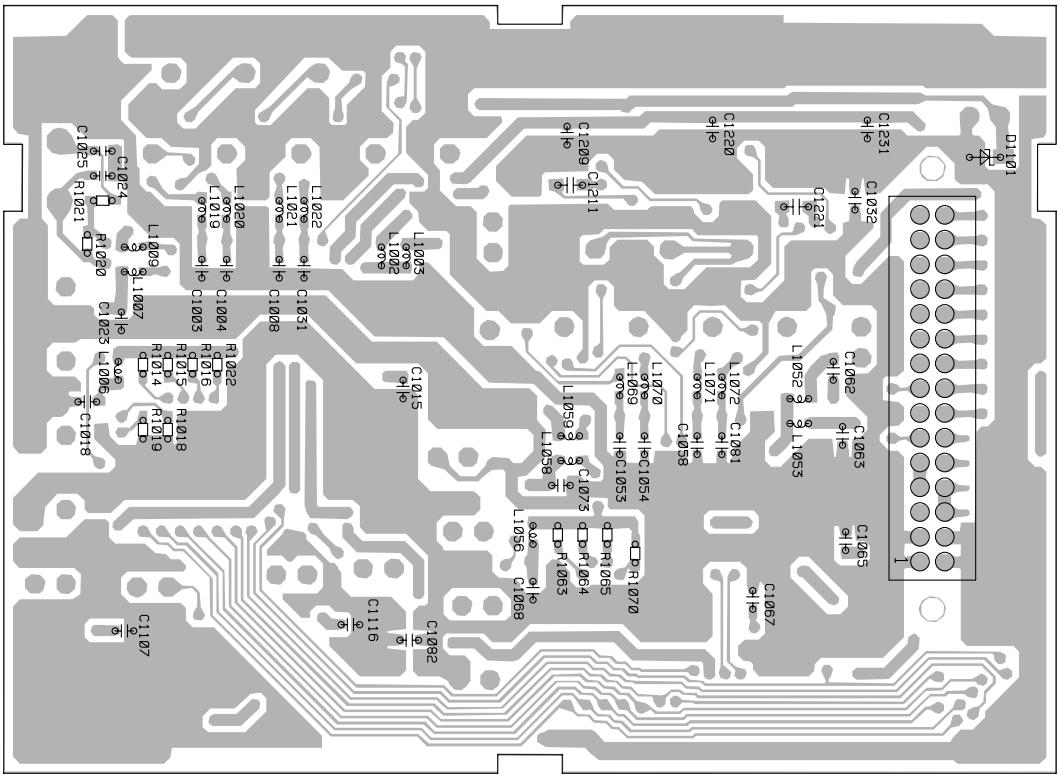
B DSP UNIT

SIDE A



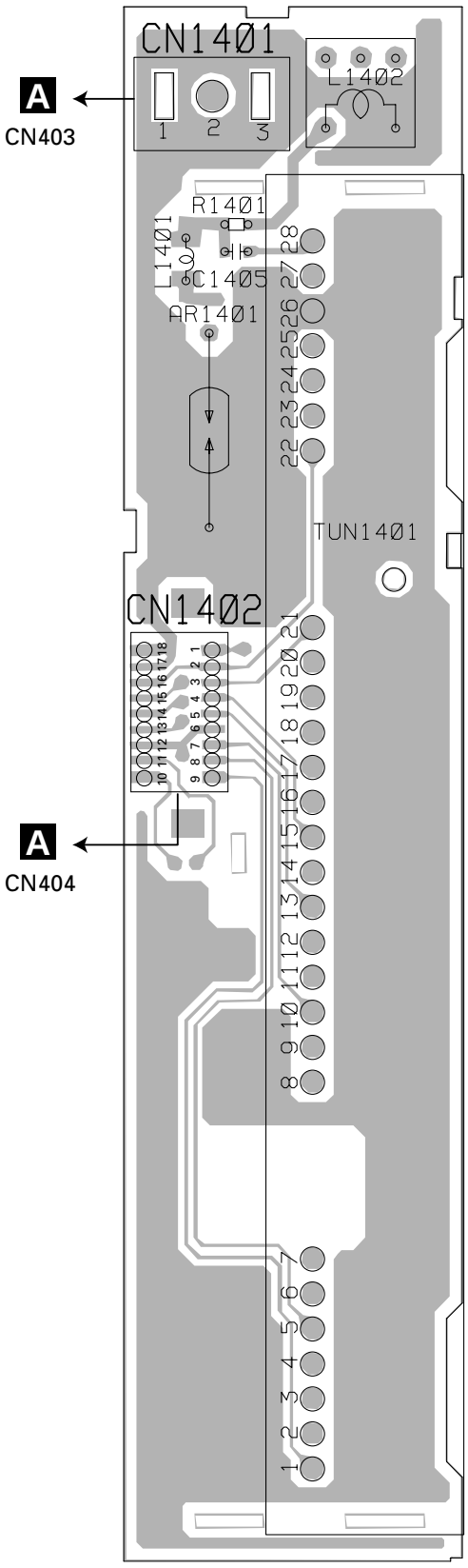
B DSP UNIT

SIDE B

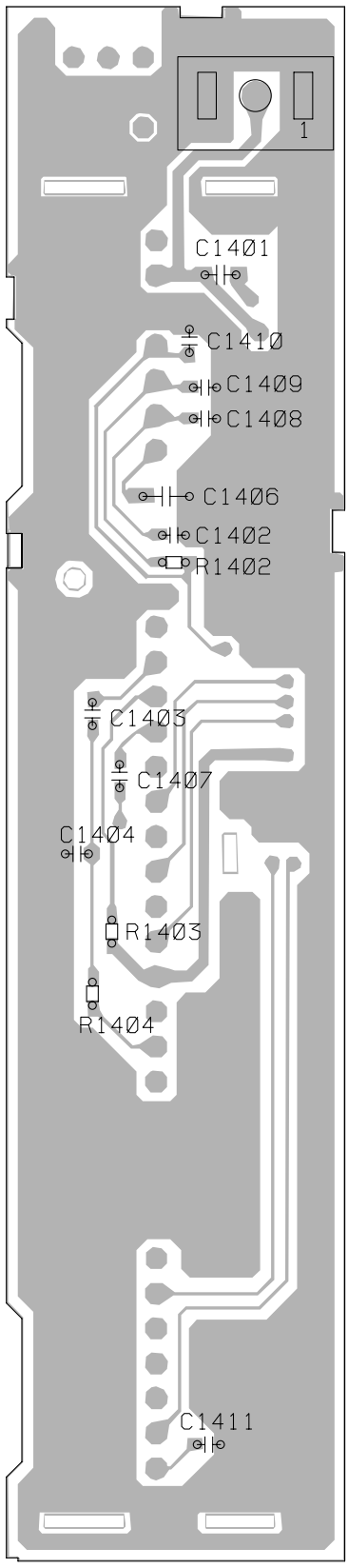


4.4 TUNER PCB

D TUNER PCB **SIDE A**



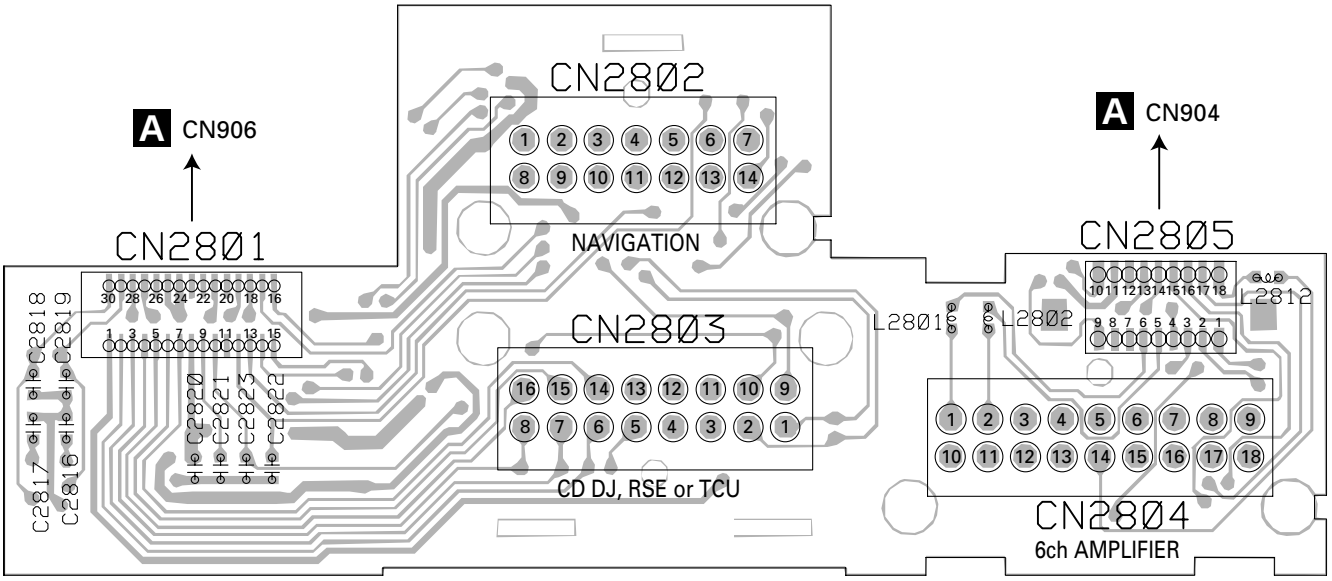
D TUNER PCB **SIDE B**



4.5 CONNECTOR PCB

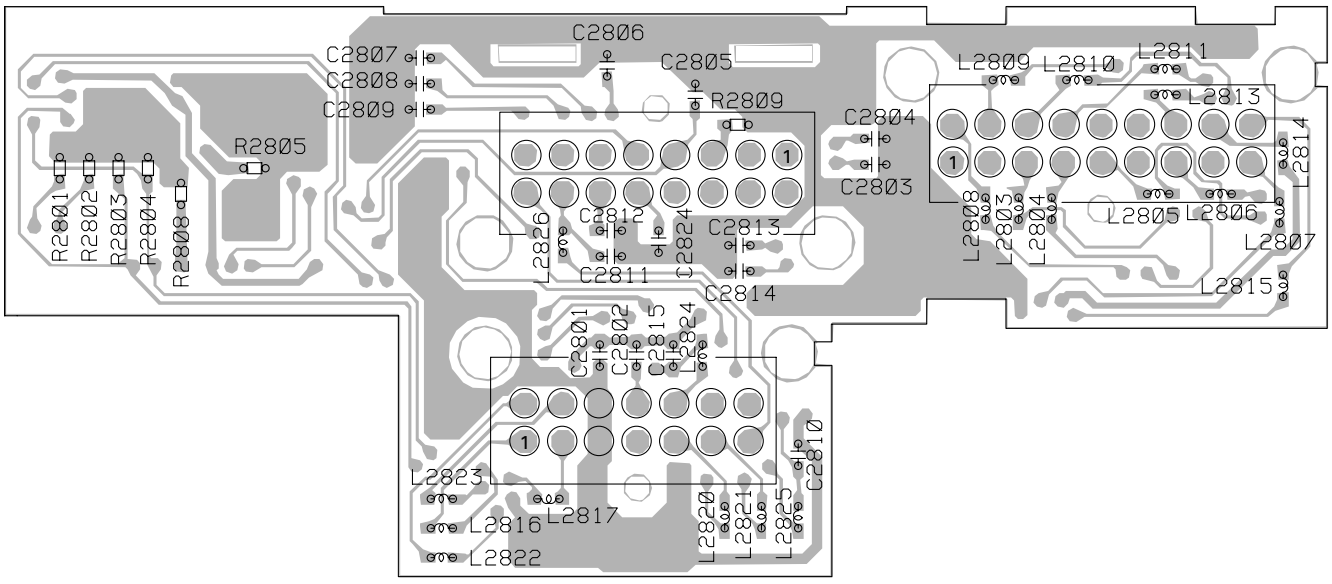
E CONNECTOR PCB

SIDE A



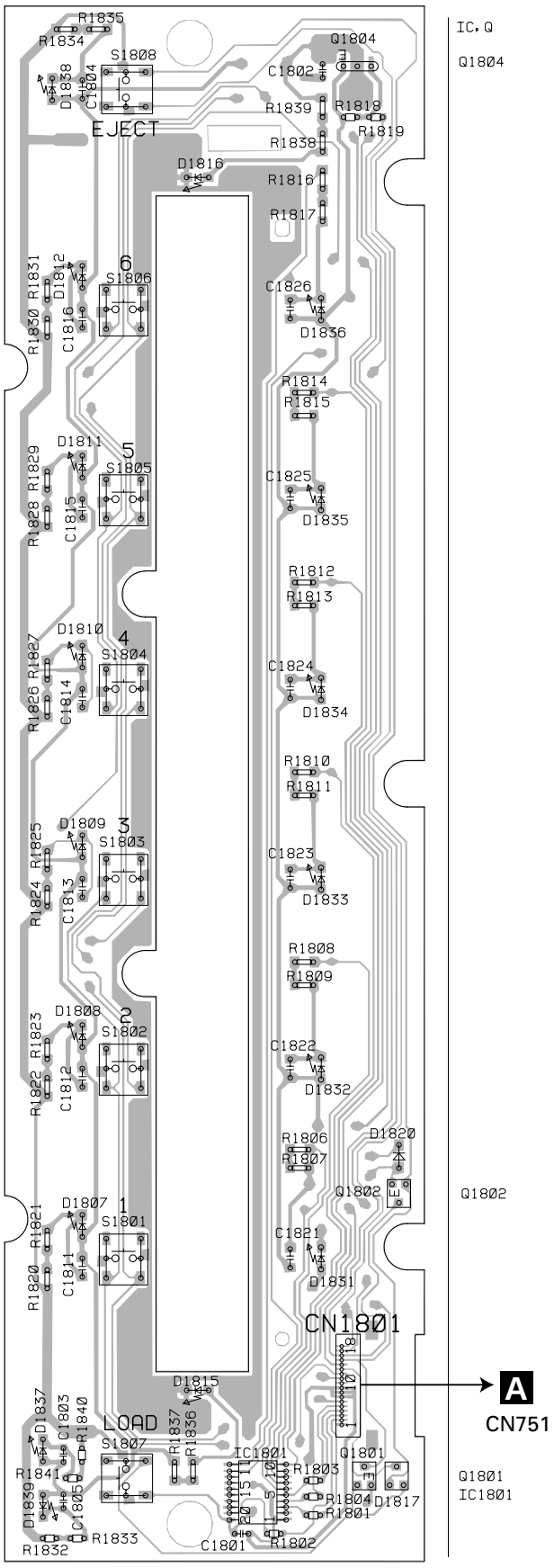
E CONNECTOR PCB

SIDE B

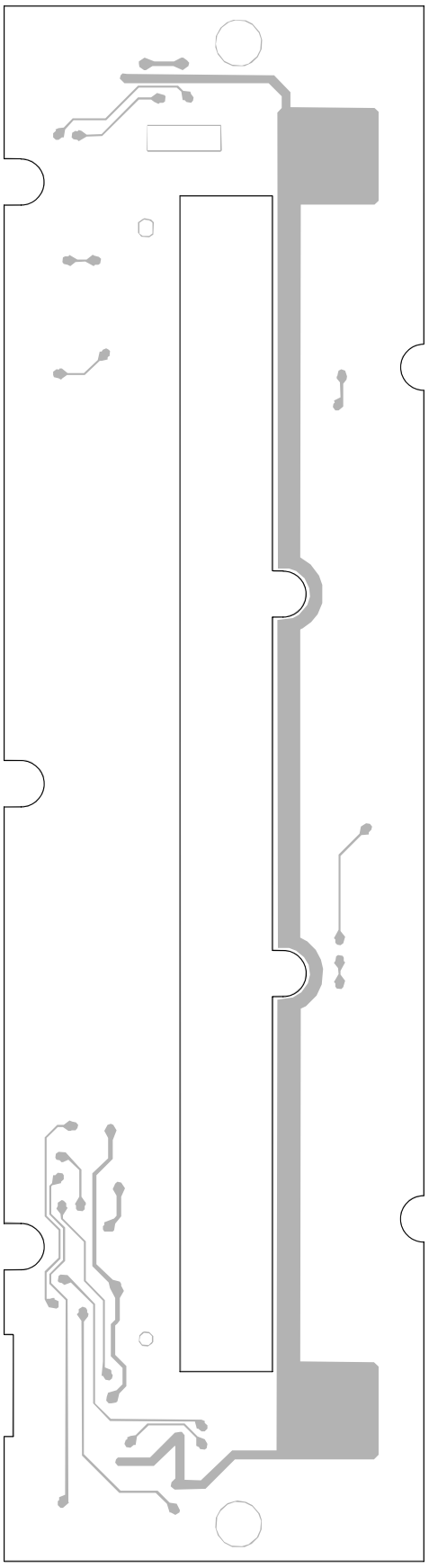


4.6 PANEL PCB UNIT

F PANEL PCB UNIT **SIDE A**

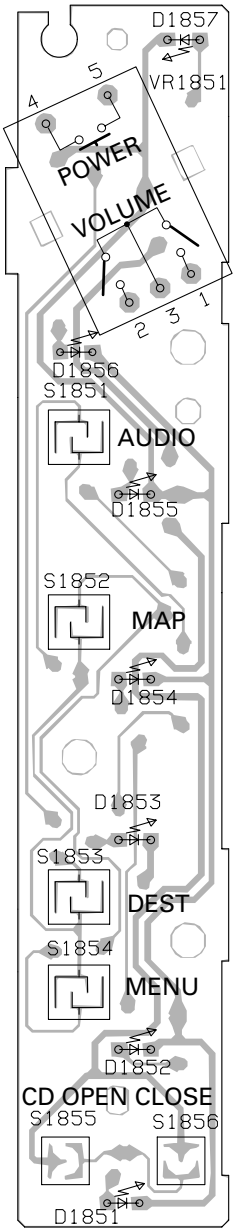


F PANEL PCB UNIT **SIDE B**

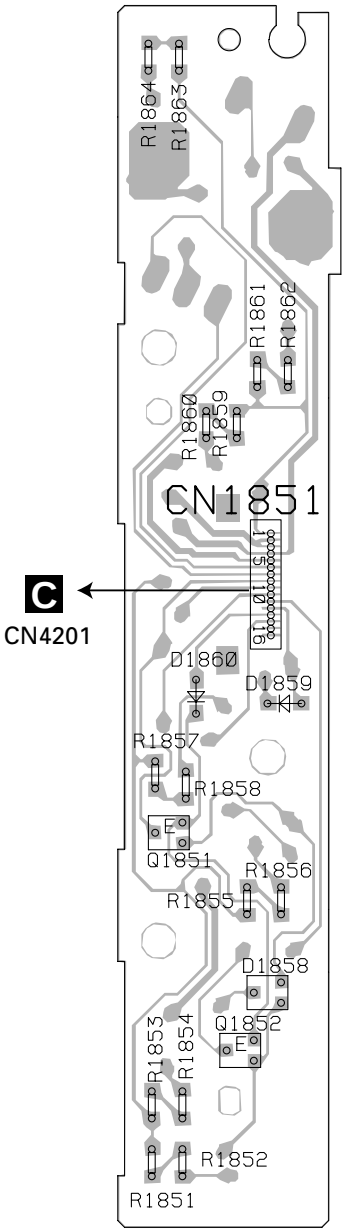


4.7 KEYBOARD UNIT

G KEYBOARD UNIT **SIDE A**



G KEYBOARD UNIT **SIDE B**



IC, Q

Q1851

Q1852

A

B

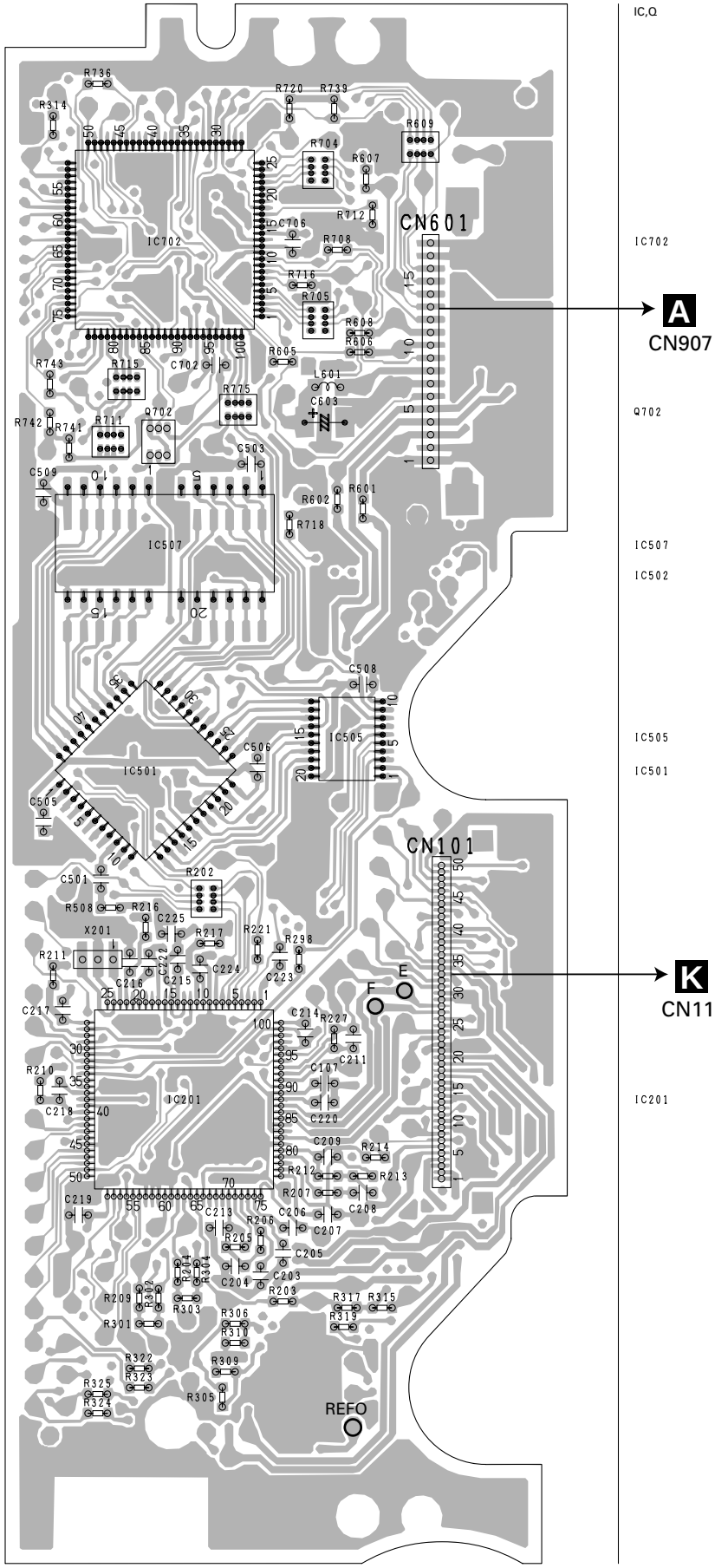
C

D

4.8 CONTROL UNIT(G2F)

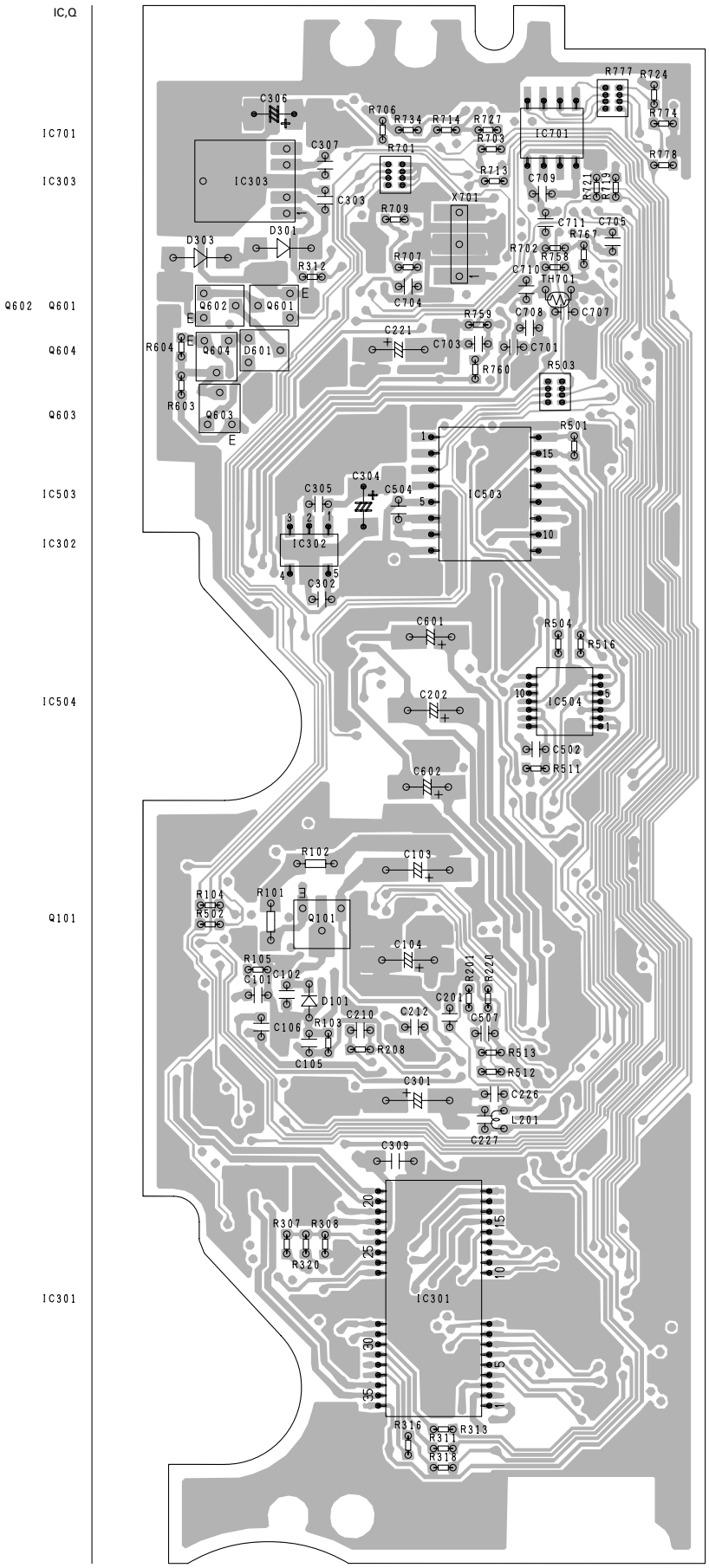
H CONTROL UNIT (G2F)

SIDE A



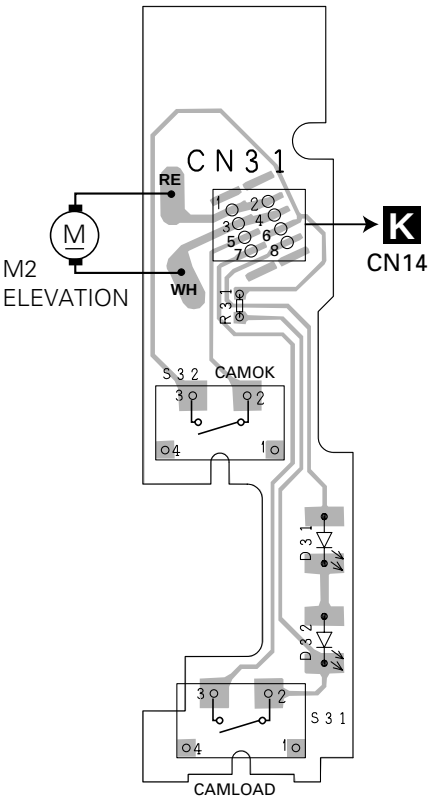
H CONTROL UNIT (G2F)

SIDE B

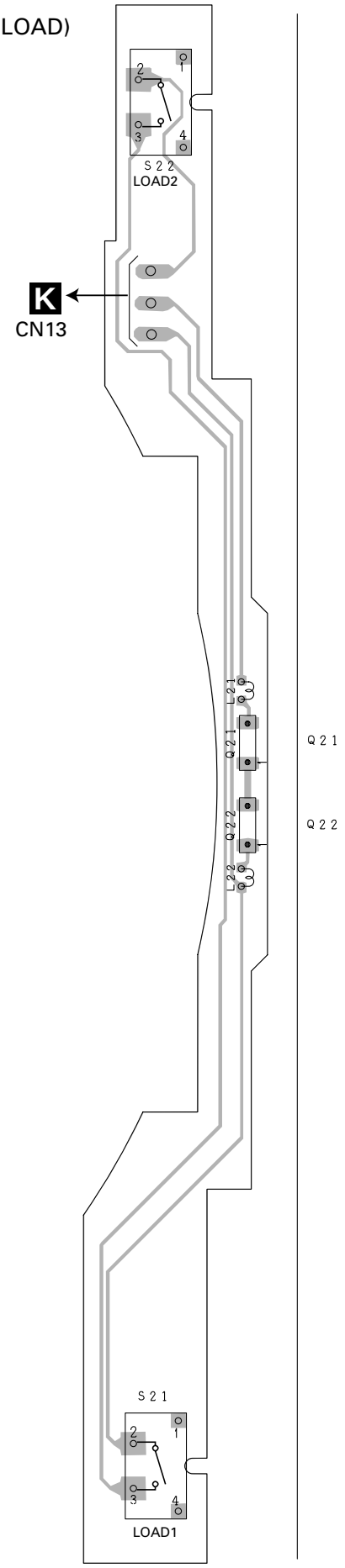


4.9 PCB UNIT(LED),PCB UNIT(SIDE)

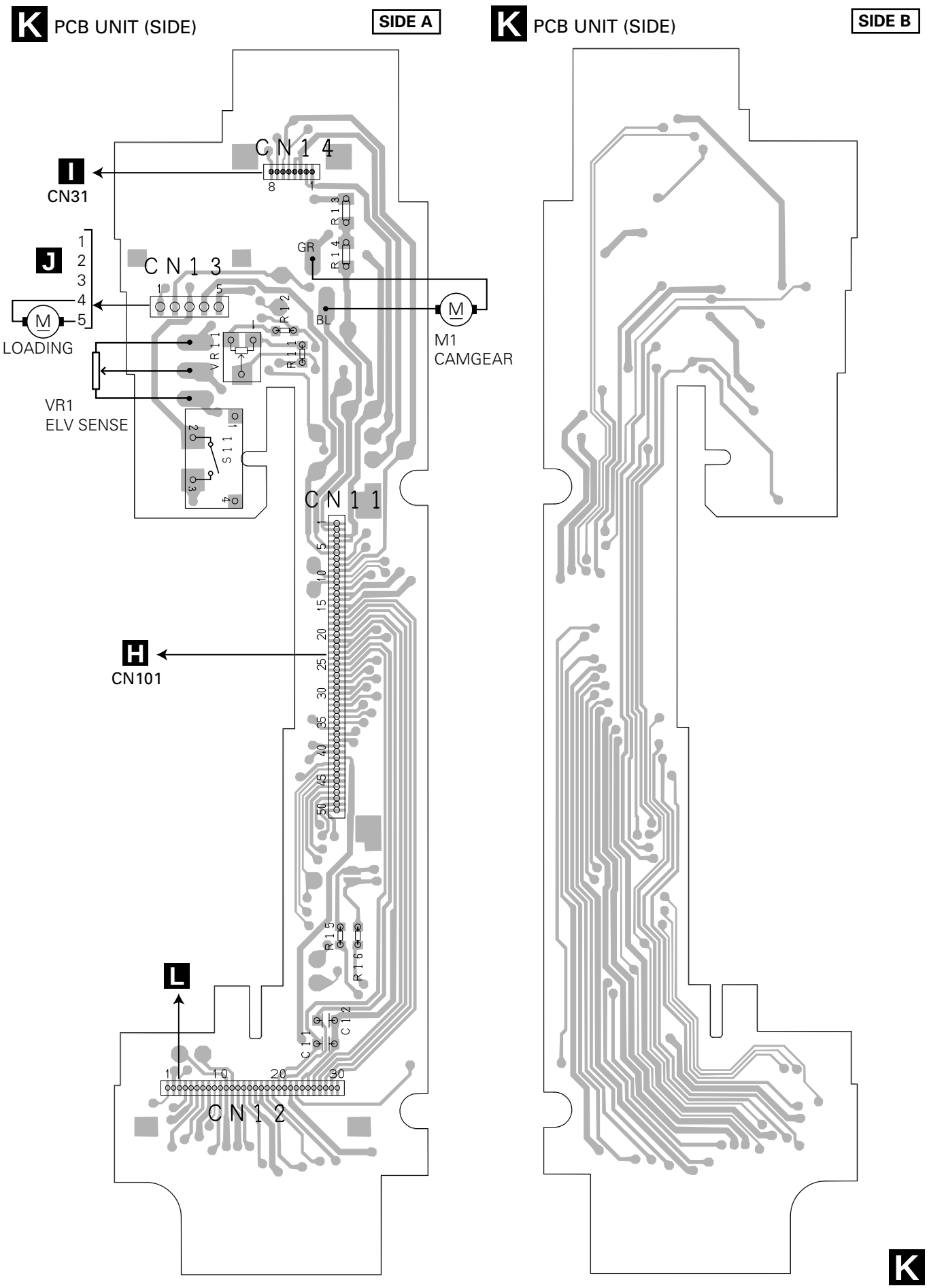
I PCB UNIT (LED)



J PCB UNIT (LOAD)

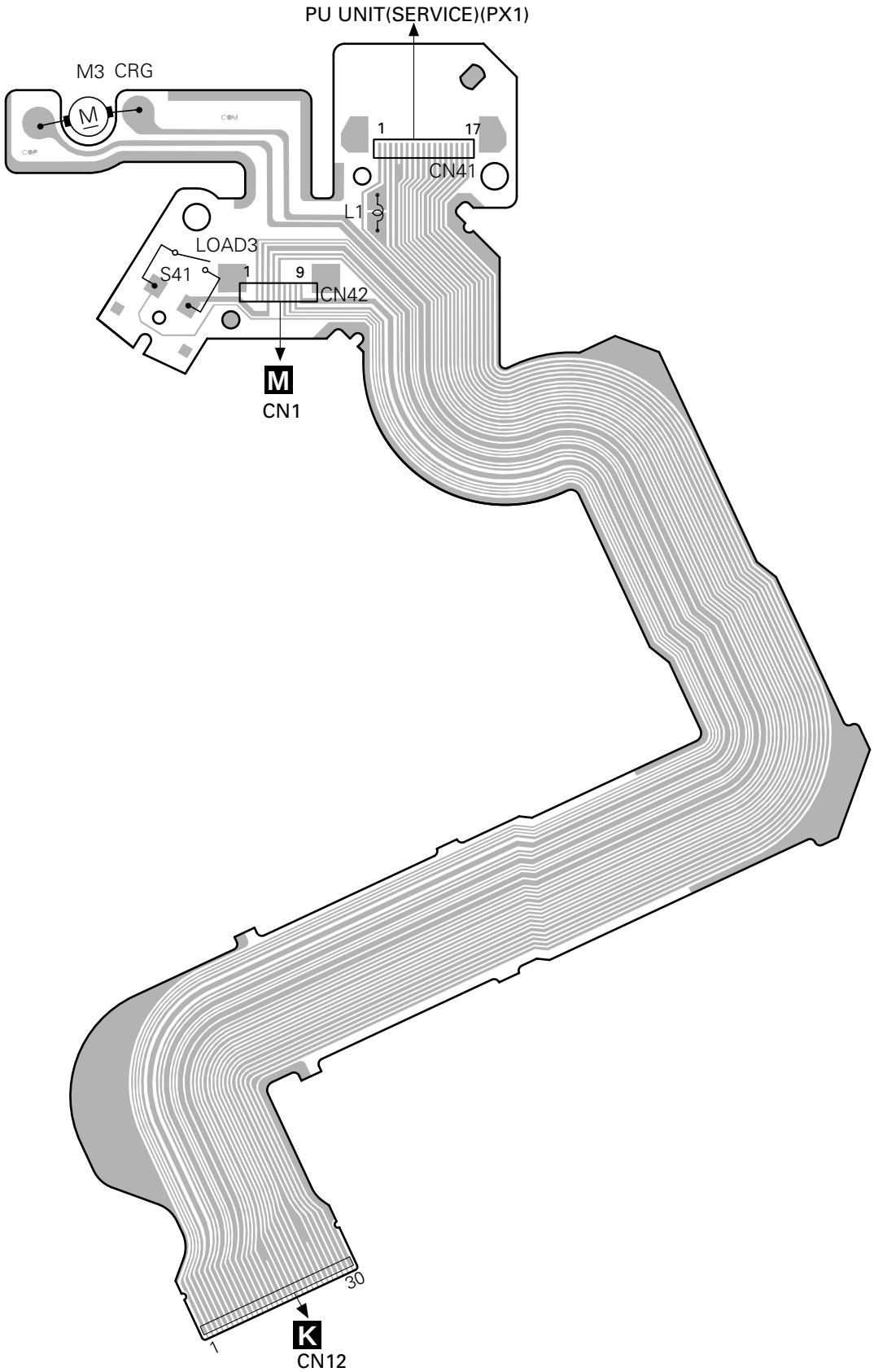


4.10 PCB UNIT(SIDE)



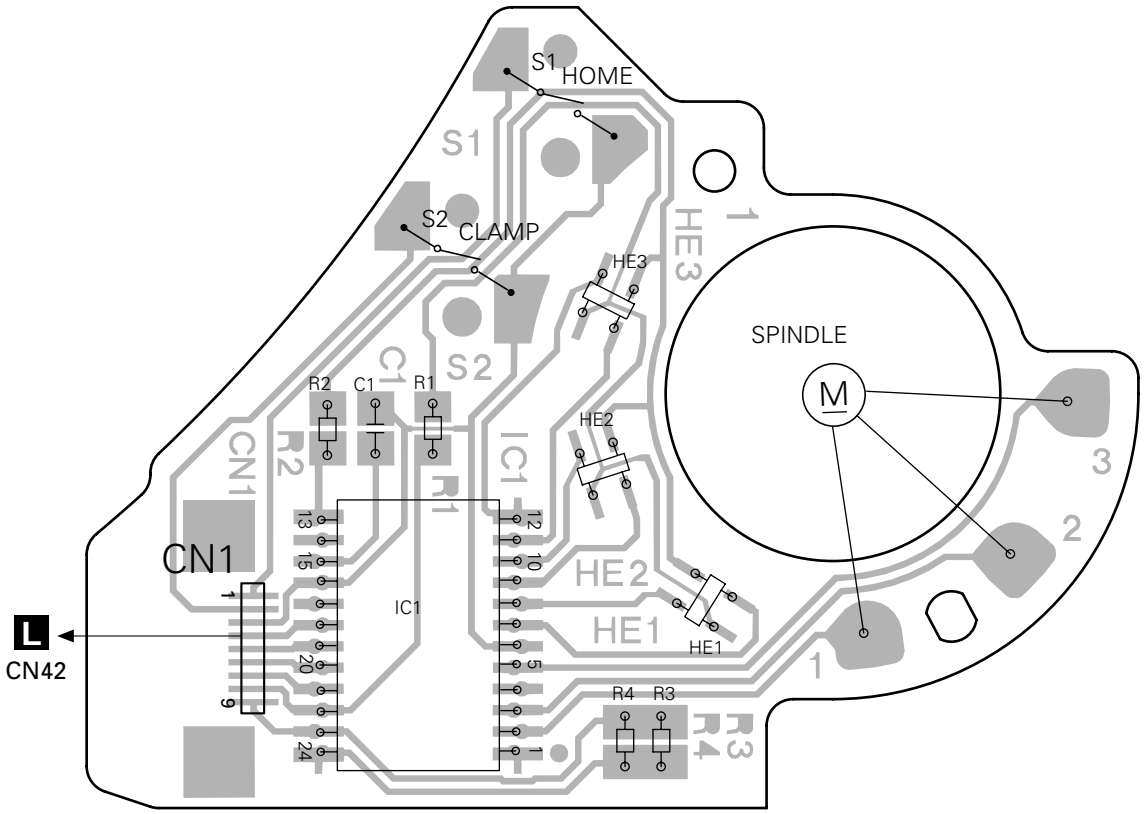
4.11 PCB UNIT

L PCB UNIT



4.12 PCB UNIT(M2 UNIT)

M PCB UNIT(M2 UNIT)



5. ELECTRICAL PARTS LIST

NOTE:

- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*

Chip Resistor

RS1/◯S◯◯◯J,RS1/◯◯S◯◯◯J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

A

Unit Number:CWM7798(AVX-MG2027ZF)
Unit Name:Tuner Audio Unit

MISCELLANEOUS

Circuit Symbol and No.	Part Name	Part No.
IC 101	IC	PML011A
IC 151	IC	TC7S66F
IC 201	IC	BA4558F-P
IC 202	IC	BA4558F-P
IC 203	IC	BA4558F-P
IC 204	IC	BA4558F-P
IC 206	IC	BA4558F-P
IC 251	IC	NJM4558V
IC 252	IC	NJM4558V
IC 301	IC	DS36277
IC 302	IC	PCA82C250T
IC 303	IC	BA05SFP
IC 501	IC	PM4006B
IC 601	IC	S-29220A
IC 602	IC	PD5665A
IC 603	IC	BU2099FV
IC 604	IC	S-80942ANMP-DD6
IC 771	IC	TC7S86FU
IC 772	Photo-interrupter	GP1S94
IC 773	IC	TC7S14FU
IC 901	IC	TK11835M
IC 902	IC	BA6288FS
IC 903	IC	TK11818M
IC 904	IC	S-81250SGQD
IC 905	IC	PAJ002A
Q 151	Transistor	DTA114EK
Q 201	Transistor	2SC2712
Q 351	Transistor	2SB1185
Q 352	Transistor	IMX1
Q 401	Transistor	2SC2412K
Q 501	Transistor	DTA124EK
Q 602	Transistor	DTC124EU
Q 603	Transistor	DTA124EK
Q 604	Transistor	DTA124EK
Q 701	Transistor	2SC2412K
Q 702	Transistor	2SC2412K
Q 703	Transistor	2SC2412K
Q 704	Transistor	2SC2412K
Q 751	Transistor	IMX1
Q 752	Transistor	2SB1185
Q 753	Transistor	2SB1132
Q 754	Transistor	DTA114EK
Q 771	Transistor	2SB1238
Q 772	Transistor	DTC114EK
Q 801	Transistor	2SA1576
Q 802	Transistor	DTC124EK
Q 803	Transistor	2SA1674
Q 810	Transistor	2SA1576
Q 811	Transistor	DTC124EK
Q 812	Transistor	2SA1674
Q 821	Transistor	2SC2412K
Q 822	Transistor	2SA1162
Q 823	Transistor	2SC2412K
Q 841	Transistor	2SC2412K
Q 851	Transistor	DTA114EK
Q 852	Transistor	2SC2412K
Q 853	Transistor	DTC114TK
Q 901	Transistor	2SB1238
Q 902	Transistor	2SD2353
Q 903	Transistor	DTA143EK
Q 904	Transistor	IMX1
Q 905	Transistor	2SB1185
Q 906	Transistor	DTC114EK
Q 907	Transistor	IMX1
Q 908	Transistor	DTA124EK
Q 909	Transistor	2SB1185
Q 910	Transistor	IMX1
Q 911	Transistor	2SB1238
Q 912	Transistor	2SB1299
Q 913	Transistor	2SB1185
Q 914	Transistor	IMX1
Q 916	Transistor	DTA124EK
D 213	Diode	HZS5LL(B)
D 301	Diode	HZS20L(2)
D 302	Diode	HZS20L(2)
D 303	Diode	HZS20L(2)
D 304	Diode	HZS20L(2)
D 351	Diode	HZS9L(A1)
D 352	Diode	MA111
D 701	Diode	UDZ18(B)
D 702	Diode	UDZ18(B)
D 703	Diode	UDZ18(B)
D 704	Diode	UDZ18(B)
D 705	Diode	UDZ18(B)
D 706	Diode	UDZ18(B)
D 707	Diode	UDZ18(B)
D 708	Diode	UDZ18(B)
D 751	Diode	HZS6L(B2)
D 752	Diode	MA153
D 753	Diode	MA153
D 754	Diode	MA153
D 755	Diode	MA153

Circuit Symbol and No.	Part Name	Part No.
D 756	Diode	MA153
D 757	Diode	MA153
D 758	Diode	MA153
D 759	Diode	UDZ10(B)
D 760	Diode	MA153
D 761	Diode	MA153
D 762	Diode	MA153
D 763	Diode	MA153
D 801	Diode	1SS133
D 802	Diode	1SS133
D 810	Diode	1SS133
D 811	Diode	1SS133
D 821	Diode	HZS5LL(C)
D 822	Diode	1SS133
D 823	Diode	HZS7L(B2)
D 841	Diode	HZS6L(B2)
D 842	Chip Diode	MA151WK
D 843	Diode	MA111
D 851	Diode	HZS12L(C1)
D 861	Diode	1SS133
D 862	Diode	1SS133
D 863	Diode	1SS133
D 864	Diode	1SS133
D 871	Diode	1SS133
D 872	Diode	1SS133
D 901	Diode	HZU7R5(B3)
D 902	Diode	RB500V-40
D 903	Diode	HZS5LL(B)
D 904	Diode	HZS18L(3)
D 905	Chip Diode	MA151WK
D 906	Diode	HZU8R2(B1)
D 908	Diode	UDZ8R2(B)
D 909	Diode	RM4Z-LFJ1
D 921	Diode	ERA15-02VH
D 922	Diode	1SS133
D 923	Diode	1SS133
D 924	Diode	MA111
L 351	Inductor	LCTA2R2J2520
L 403	Inductor	LAU1R0K
L 404	Inductor	LAU1R0K
L 501	Ferri-Inductor	LAU2R2K
L 502	Ferri-Inductor	LAU2R2K
L 551	Inductor	LAU1R0K
L 552	Inductor	LAU1R0K
L 601	Chip-Inductor	LCTA2R2J3225
L 602	Inductor	LCTA2R2J2520
L 603	Inductor	CTF1379
L 604	Inductor	CTF1379
L 605	Inductor	CTF1306
L 606	Inductor	CTF1306
L 701	Inductor	LCTB150K2125
L 751	Ferri-Inductor	LAU2R2K
L 901	Inductor	CTF1499
L 902	Choke Coil 100µH	CTH1196
L 903	Transformer	CTX1088
L 905	Choke Coil 1.4mH	CTH1129
TH901	Thermistor	CCX1051
X 501	Crystal Resonator 4.332MHz	CSS1056
X 601	Radiator 16MHz	CSS1571
X 602	Radiator 32.768kHz	CSS1319
S 751	Spring Switch(OPEN)	CSN1046
S 752	Spring Switch(CLOSE)	CSN1046
FU901	Fuse 2A	CEK1176
FU902	Fuse 1.75A	CEK1177
FB901	Inductor	CTF1449
FB902	Inductor	CTF1449

RESISTORS

R 101	RS1/16S103J
R 102	RS1/16S153J
R 103	RS1/16S103J
R 104	RS1/16S682J
R 105	RS1/16S0R0J
R 151	RS1/16S104J
R 152	RS1/16S473J
R 153	RS1/16S473J
R 154	RS1/16S473J
R 155	RS1/16S473J
R 156	RS1/16S104J
R 157	RS1/16S104J
R 158	RS1/16S472J
R 159	RS1/16S472J
R 160	RS1/16S104J
R 161	RS1/16S104J
R 162	RS1/16S472J
R 163	RS1/16S472J
R 164	RS1/16S391J
R 165	RS1/16S912J
R 201	RS1/16S822J
R 202	RS1/16S822J
R 203	RS1/16S472J
R 204	RS1/16S472J
R 205	RS1/16S470J
R 206	RS1/16S470J
R 207	RS1/16S472J
R 208	RS1/16S472J
R 209	RS1/16S470J
R 210	RS1/16S470J
R 211	RS1/16S822J
R 212	RS1/16S822J
R 213	RS1/16S470J
R 214	RS1/16S470J
R 215	RS1/16S472J
R 216	RS1/16S472J
R 217	RS1/16S472J
R 218	RS1/16S472J
R 219	RS1/16S470J
R 220	RS1/16S470J
R 226	RS1/16S822J
R 227	RS1/16S470J
R 228	RS1/16S472J
R 229	RS1/16S472J
R 230	RS1/16S470J
R 231	RS1/16S102J
R 232	RS1/16S272J
R 233	RS1/16S473J
R 234	RS1/16S473J
R 236	RS1/16S473J
R 237	RS1/16S472J
R 238	RS1/16S472J
R 240	RS1/16S472J
R 251	RS1/16S333J
R 252	RS1/16S333J
R 253	RS1/16S333J
R 254	RS1/16S333J
R 255	RS1/16S333J
R 256	RS1/16S333J

Circuit Symbol and No.	Part Name	Part No.
R 257		RS1/16S333J
R 258		RS1/16S333J
R 259		RS1/16S753J
R 260		RS1/16S753J
R 261		RS1/16S753J
R 262		RS1/16S753J
R 263		RS1/16S753J
R 264		RS1/16S753J
R 265		RS1/16S753J
R 266		RS1/16S753J
R 301		RS1/16S223J
R 302		RS1/16S472J
R 303		RS1/16S472J
R 304		RS1/16S273J
R 305		RS1/16S472J
R 306		RD1/4PU470J
R 307		RD1/4PU470J
R 308		RS1/16S102J
R 351		RS1/16S223J
R 352		RS1/16S223J
R 353		RS1/16S223J
R 354		RS1/16S332J
R 355		RS1/16S121J
R 356		RS1/16S121J
R 357		RS1/16S221J
R 358		RS1/16S221J
R 359		RS1/16S222J
R 404		RS1/16S473J
R 405		RS1/16S681J
R 406		RS1/16S103J
R 407		RS1/16S681J
R 408		RS1/16S681J
R 409		RS1/16S681J
R 410		RS1/16S473J
R 411		RS1/16S681J
R 412		RS1/16S681J
R 413		RS1/16S272J
R 414		RS1/16S272J
R 415		RS1/16S393J
R 416		RS1/16S162J
R 417		RS1/16S162J
R 418		RS1/16S472J
R 419		RS1/16S473J
R 420		RS1/16S473J
R 424		RS1/16S222J
R 425		RS1/16S473J
R 501		RS1/16S393J
R 503		RS1/16S681J
R 504		RAB4C102J
R 505		RS1/16S102J
R 602		RS1/16S473J
R 603		RS1/16S473J
R 605		RS1/16S102J
R 607		RS1/16S474J
R 608		RS1/16S474J
R 609		RS1/16S474J
R 610		RS1/16S0R0J
R 611		RS1/16S473J
R 612		RS1/16S471J
R 613		RS1/16S102J
R 614		RS1/16S102J
R 615		RAB4C471J
R 619		RS1/16S471J
R 620		RS1/16S471J
R 621		RS1/16S471J
R 622		RAB4C471J
R 623		RS1/16S102J
R 624		RS1/16S102J
R 625		RS1/16S102J
R 626		RAB4C471J
R 627		RS1/16S471J
R 628		RS1/16S474J
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R 630		RS1/16S274J
R 631		RS1/16S274J
R 632		RS1/16S473J
R 633		RS1/16S103J
R 634		RS1/16S102J
R 635		RS1/16S274J
R 636		RS1/16S102J
R 637		RS1/16S274J
R 638		RS1/16S102J
R 640		RS1/16S102J
R 641		RAB4C102J
R 642		RS1/16S102J
R 644		RS1/16S473J
R 649		RS1/16S0R0J
R 651		RS1/16S124J
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R 653		RS1/16S0R0J
R 654		RS1/16S473J
R 655		RAB4C102J
R 656		RS1/16S473J
R 657		RAB4C102J
R 659		RS1/16S471J
R 661		RS1/16S102J
R 662		RAB4C102J
R 663		RAB4C473J
R 664		RS1/16S472J
R 665		RS1/16S471J
R 666		RS1/16S102J
R 667		RS1/16S102J
R 668		RAB4C0R0J
R 669		RAB4C102J
R 680		RS1/16S473J
R 681		RS1/16S274J
R 685		RS1/16S102J
R 686		RS1/16S102J
R 688		RS1/16S471J
R 689		RS1/16S471J
R 693		RS1/16S102J
R 701		RS1/16S0R0J
R 702		RS1/16S0R0J
R 703		RS1/16S0R0J
R 704		RS1/16S0R0J
R 705		RS1/16S102J
R 706		RS1/16S102J
R 707		RS1/16S102J
R 708		RS1/16S102J
R 709		RS1/16S223J
R 710		RS1/16S223J
R 711		RS1/16S223J
R 712		RS1/16S223J
R 713		RS1/16S223J
R 714		RS1/16S223J
R 715		RS1/16S223J

Circuit Symbol and No.	Part Name	Part No.
R 716		RS1/16S223J
R 751		RS1/16S222J
R 752		RS1/16S222J
R 753		RS1/16S681J
R 754		RS1/16S105J
R 755		RS1/16S821J
R 757		RS1/16S223J
R 758		RS1/16S222J
R 759		RS1/16S222J
R 761		RS1/16S681J
R 762		RS1/16S473J
R 763		RS1/16S681J
R 764		RS1/16S681J
R 771		RS1/16S222J
R 772		RS1/16S222J
R 773		RS1/16S473J
R 774		RS1/16S103J
R 775		RS1/16S103J
R 776		RS1/16S473J
R 777		RS1/16S681J
R 778		RS1/16S681J
R 779		RS1/16S332J
R 801		RS1/16S220J
R 802		RS1/16S103J
R 803		RS1/16S103J
R 804		RS1/16S822J
R 805		RS1/16S103J
R 806		RD1/4PU101J
R 810		RS1/16S220J
R 811		RS1/16S103J
R 812		RS1/16S103J
R 813		RS1/16S822J
R 814		RS1/16S103J
R 815		RD1/4PU101J
R 821		RS1/16S822J
R 822		RS1/16S471J
R 823		RS1/16S473J
R 824		RS1/16S473J
R 825		RS1/16S473J
R 826		RD1/4PU101J
R 827		RD1/4PU102J
R 828		RS1/16S103J
R 829		RS1/16S471J
R 830		RS1/16S333J
R 831		RS1/16S472J
R 832		RS1/16S223J
R 833		RS1/16S223J
R 841		RD1/4PU472J
R 842		RS1/16S222J
R 843		RS1/16S473J
R 844		RS1/16S333J
R 845		RS1/16S0R0J
R 846		RS1/16S473J
R 851		RS1/16S473J
R 852		RS1/16S473J
R 853		RS1/16S473J
R 854		RS1/16S104J
R 855		RS1/16S473J
R 856		RS1/16S473J
R 858		RD1/4PU102J
R 860		RS1/16S473J
R 862		RS1/16S103J
R 863		RS1/8S362J
R 864		RD1/4PU471J
R 865		RS1/16S103J
R 866		RS1/8S362J
R 867		RS1/16S273J
R 868		RD1/4PU471J
R 871		RS1/16S102J
R 872		RS1/16S102J
R 873		RS1/16S102J
R 874		RS1/16S102J
R 875		RS1/16S102J
R 876		RS1/16S102J
R 901		RS1/10S470J
R 902		RS1/10SR68J
R 903		RN1/10SK3903D
R 904		RS1/10S511J
R 905		RS1/10S151J
R 906		RN1/10SE3302D
R 907		RN1/10SK4303D
R 908		RS1/16S681J
R 909		RS1/16S621J
R 910		RS1/16S333J
R 911		RS1/16S471J
R 912		RS1/16S471J
R 913		RS1/16S471J
R 914		RS1/10S122J
R 915		RS1/16S562J
R 916		RS1/16S223J
R 917		RS1/16S332J
R 918		RS1/16S562J
R 919		RS1/10S102J
R 920		RS1/16S222J
R 921		RS1/16S472J
R 922		RS1/10S471J
R 923		RS1/16S821J
R 924		RS1/16S821J
R 925		RS1/10S681J
R 926		RS1/16S511J
R 927		RS1/16S223J
R 928		RS1/16S511J
R 929		RS1/16S472J
R 930		RS1/16S332J
R 931		RS1/16S124J
R 933		RS1/16S102J
R 934		RD1/4PU2R2J
R 935		RD1/4PU2R2J
R 936		RS1/16S222J
R 937		RS1/16S911J
R 938		RS1/16S511J
R 939		RS1/16S223J
R 940		RS1/16S511J
R 941		RS1/16S224J
R 942		RS1/16S104J
R 944		RS1/16S822J
R 945		RS1/16S332J
R 946		RS1/16S274J
R 947		RS1/16S104J
R 948		RS1/16S0R0J
R 949		RS1/16S0R0J
R 950		RS1/16S911J
R 951		RS1/16S102J
R 952		RS1/16S153J
R 953		RS1/16S332J
R 955		RS1/4SA101J
R 956		RS1/16S0R0J

CAPACITORS

Circuit Symbol and No.	Part Name	Part No.
C 101		CKSQYB225K10
C 102		CKSQYB225K10
C 103		CKSQYB225K10
C 104		CKSQYB225K10
C 105		CKSRYB224K16
C 106		CKSRYB224K16
C 107		CKSRYB474K10
C 108		CKSRYB474K10
C 109		CKSRYB104K16
C 110		CEAL100M16
C 111		CEAL100M16
C 112		CKSRYB105K10
C 113		CKSRYB104K16
C 117		CEALNP100M10
C 118		CEALNP100M10
C 120		CEALNP100M10
C 121		CKSRYB472K50
C 122		CKSRYB472K50
C 123		CCSRCH471J50
C 124		CCSRCH471J50
C 125		CKSRYB473K50
C 151		CKSRYB103K50
C 152		CEALNP100M10
C 153		CEALNP100M10
C 154		CKSRYB105K10
C 155		CKSRYB222K50
C 156		CKSRYB105K10
C 201		CCSRCH101J50
C 202		CCSRCH101J50
C 203		CCSRCH101J50
C 204		CCSRCH101J50
C 207		CKSRYB102K50
C 208		CKSRYB102K50
C 209		CKSRYB102K50
C 210		CKSRYB102K50
C 213		CCSRCH101J50
C 214		CCSRCH101J50
C 215		CCSRCH101J50
C 216		CCSRCH101J50
C 219		CKSRYB102K50
C 220		CKSRYB102K50
C 221		CKSRYB102K50
C 222		CKSRYB102K50
C 231		CCSRCH101J50
C 232		CCSRCH101J50
C 234		CKSRYB102K50
C 235		CKSRYB102K50
C 237		CEAT331M6R3
C 238		CEAL100M16
C 251		CCSRCH470J50
C 252		CCSRCH470J50
C 253		CCSRCH470J50
C 254		CCSRCH470J50
C 255		CCSRCH470J50
C 256		CCSRCH470J50
C 257		CCSRCH470J50
C 258		CCSRCH470J50
C 259		CEAL100M16
C 260		CEAL100M16
C 261		CEAL100M16
C 262		CEAL100M16
C 263		CEAL100M16
C 264		CEAL100M16
C 265		CKSRYB105K10
C 266		CKSRYB105K10
C 301		CKSRYB223K50
C 302		CEAL100M16
C 303		CEAL220M10
C 304		CKSRYB222K50
C 305		CKSRYB222K50
C 306		CCSQCH101J50
C 307		CCSRCH181J50
C 308		CCSQCH101J50
C 309		CCSRCH181J50
C 351		CKSRYB102K50
C 352		CEJQ101M16
C 353		CKSRYB104K16
C 354		CEAL100M16
C 355		CASA4R7M16
C 357		CKSRYB105K6R3
C 358		CKSYB106K6R3
C 405		CKSRYB103K50
C 406		CKSRYB183K50
C 407		CKSRYB183K50
C 408		CEJQ101M6R3
C 409		CKSRYB103K50
C 410		CEJQ101M16
C 411		CKSRYB472K50
C 412		CKSRYB103K50
C 421		CKSRYB105K10
C 501		CEAL100M16
C 502		CKSRYB104K16
C 503		CEJQ100M16
C 504		CKSRYB104K16
C 505		CKSRYB105K10
C 506		CKSRYB104K16
C 507		CKSRYB472K50
C 508		CCSRCH220J50
C 509		CCSRCH220J50
C 551		CKSRYB102K50
C 552		CKSRYB102K50
C 601		CKSRYB104K16
C 602		CCSRCH180J50
C 603		CKSYB106K6R3
C 604		CCSRCH101J50
C 605		CCSRCH180J50
C 607		CCSRCH220J50
C 608		CCSRCH180J50
C 609		CKSRYB104K16
C 610		CKSRYB102K50
C 611		CKSRYB103K50
C 612		CKSRYB103K50
C 613		CKSRYB103K50
C 614		CKSRYB102K50
C 615		CKSRYB102K50
C 616		CKSRYB104K16
C 617		CKSRYB104K16
C 618		CCSRCH101J50
C 619		CKSRYB104K16
C 620		CCSRCH101J50
C 702		CKSRYB103K50
C 703		CEAL470M10
C 704		CKSYB475K10
C 705		CKSYB475K10
C 706		CKSYB475K10

Circuit Symbol and No.	Part Name	Part No.
C 707		CKSYB475K10
C 751		CKSRYB104K16
C 752		CKSRYB104K16
C 771		CCSRCH681J50
C 772		CCSRCH681J50
C 801		CKSRYB103K50
C 810		CKSRYB103K50
C 811		CCSRCH101J50
C 841		CCSRCH221J50
C 842		CKSRYB103K50
C 852		CKSRYB102K50
C 853		CCSRCH181J50
C 861		CKSRYB473K50
C 862		CKSRYB473K50
C 871		CKSRYB103K50
C 901		CKSRYB105K10
C 902		CASA470M20
C 903		CKSRYB102K50
C 904		CKSRYB104K25
C 905		CKSRYB104K16
C 906		CKSRYB105K10
C 907		CEHAR470M16
C 908		CEJQ470M10
C 909		CEHAR101M10
C 910		CCSRCH101J50
C 911		CKSRYB103K50
C 912		CKSQYB104K25
C 913		CEJQ4R7M35
C 914		CCSRCH101J50
C 915		CKSRYB104K16
C 916		CEJQ100M25
C 917		CKSRYB102K50
C 918		CEHAT331M10
C 919		CKSRYB223K50
C 920		CKSRYB104K25
C 921		CEJQ220M10
C 922		CASA330M10
C 923		CKSRYB103K50
C 924		CEJQ470M6R3
C 925	470µF/6.3V	CCH1182
C 926	100µF/10V	CCH1323
C 927		CKSRYB103K50
C 928		CKSRYB105K10
C 929		CEHAR101M10
C 930	3300µF/16V	CCH1163
C 931		CKSRYB103K50
C 932		CKSRYB104K25
C 933		CKSRYB153K50
C 937		CEAT102M16
C 938		CKSRYB103K50
C 939		CKSRYB103K50
C 940	0.1F/5.5V	CCL1023
C 941		CKSRYB473K50
C 942		CKSRYB104K25
C 943		CKSYB105K16
C 944		CCSRCH102J50

A

Unit Number:CWM7804(AVX-MG2127ZF)

Unit Name:Tuner Audio Unit

Circuit Symbol and No.	Part Name	Part No.
MISCELLANEOUS		
IC 101	IC	PML011A
IC 151	IC	TC7S66F
IC 201	IC	BA4558F-P
IC 202	IC	BA4558F-P
IC 203	IC	BA4558F-P
IC 204	IC	BA4558F-P
IC 206	IC	BA4558F-P
IC 251	IC	NJM4558V
IC 252	IC	NJM4558V
IC 301	IC	DS36277
IC 302	IC	PCA82C250T
IC 303	IC	BA05SFP
IC 501	IC	PM4006B
IC 601	IC	S-29220A
IC 602	IC	PD5665A
IC 603	IC	BU2099FV
IC 604	IC	S-80942ANMP-DD6
IC 771	IC	TC7S86FU
IC 772	Photo-interrupter	GP1S94
IC 773	IC	TC7S14FU
IC 901	IC	TK11835M
IC 902	IC	BA6288FS
IC 903	IC	TK11818M
IC 904	IC	S-81250SGQD
IC 905	IC	PAJ002A
Q 151	Transistor	DTA114EK
Q 201	Transistor	2SC2712
Q 351	Transistor	2SB1185
Q 352	Transistor	IMX1
Q 401	Transistor	2SC2412K
Q 501	Transistor	DTA124EK
Q 602	Transistor	DTC124EU
Q 603	Transistor	DTA124EK
Q 604	Transistor	DTA124EK
Q 701	Transistor	2SC2412K
Q 702	Transistor	2SC2412K
Q 703	Transistor	2SC2412K
Q 704	Transistor	2SC2412K
Q 751	Transistor	IMX1
Q 752	Transistor	2SB1185
Q 753	Transistor	2SB1132
Q 754	Transistor	DTA114EK
Q 771	Transistor	2SB1238
Q 772	Transistor	DTC114EK
Q 810	Transistor	2SA1576
Q 811	Transistor	DTC124EK
Q 812	Transistor	2SA1674
Q 821	Transistor	2SC2412K
Q 822	Transistor	2SA1162
Q 823	Transistor	2SC2412K
Q 841	Transistor	2SC2412K
Q 851	Transistor	DTA114EK
Q 852	Transistor	2SC2412K
Q 853	Transistor	DTC114TK
Q 901	Transistor	2SB1238
Q 902	Transistor	2SD2353
Q 903	Transistor	DTA143EK
Q 904	Transistor	IMX1
Q 905	Transistor	2SB1185
Q 906	Transistor	DTC114EK
Q 907	Transistor	IMX1
Q 908	Transistor	DTA124EK

Circuit Symbol and No.	Part Name	Part No.
Q 909	Transistor	2SB1185
Q 910	Transistor	IMX1
Q 911	Transistor	2SB1238
Q 912	Transistor	2SB1299
Q 913	Transistor	2SB1185
Q 914	Transistor	IMX1
Q 916	Transistor	DTA124EK
D 213	Diode	HZS5LL(B)
D 301	Diode	HZS20L(2)
D 302	Diode	HZS20L(2)
D 303	Diode	HZS20L(2)
D 304	Diode	HZS20L(2)
D 351	Diode	HZS9L(A1)
D 352	Diode	MA111
D 701	Diode	UDZ18(B)
D 702	Diode	UDZ18(B)
D 703	Diode	UDZ18(B)
D 704	Diode	UDZ18(B)
D 705	Diode	UDZ18(B)
D 706	Diode	UDZ18(B)
D 707	Diode	UDZ18(B)
D 708	Diode	UDZ18(B)
D 751	Diode	HZS6L(B2)
D 752	Diode	MA153
D 753	Diode	MA153
D 754	Diode	MA153
D 755	Diode	MA153
D 756	Diode	MA153
D 757	Diode	MA153
D 758	Diode	MA153
D 759	Diode	UDZ10(B)
D 760	Diode	MA153
D 761	Diode	MA153
D 762	Diode	MA153
D 763	Diode	MA153
D 810	Diode	1SS133
D 811	Diode	1SS133
D 821	Diode	HZS5LL(C)
D 822	Diode	1SS133
D 823	Diode	HZS7L(B2)
D 841	Diode	HZS6L(B2)
D 842	Chip Diode	MA151WK
D 843	Diode	MA111
D 851	Diode	HZS12L(C1)
D 861	Diode	1SS133
D 862	Diode	1SS133
D 863	Diode	1SS133
D 864	Diode	1SS133
D 871	Diode	1SS133
D 872	Diode	1SS133
D 901	Diode	HZU7R5(B3)
D 902	Diode	RB500V-40
D 903	Diode	HZS5LL(B)
D 904	Diode	HZS18L(3)
D 905	Chip Diode	MA151WK
D 906	Diode	HZU8R2(B1)
D 908	Diode	UDZ8R2(B)
D 909	Diode	RM4Z-LFJ1
D 921	Diode	ERA15-02VH
D 922	Diode	1SS133
D 923	Diode	1SS133
D 924	Diode	MA111
L 351	Inductor	LCTA2R2J2520

Circuit Symbol and No.	Part Name	Part No.
L 403	Inductor	LAU1R0K
L 404	Inductor	LAU1R0K
L 501	Inductor	LAU2R2K
L 502	Inductor	LAU2R2K
L 551	Inductor	LAU1R0K
L 552	Inductor	LAU1R0K
L 601	Chip-Inductor	LCTA2R2J3225
L 602	Inductor	LCTA2R2J2520
L 603	Inductor	CTF1379
L 604	Inductor	CTF1379
L 605	Inductor	CTF1306
L 606	Inductor	CTF1306
L 701	Inductor	LCTB150K2125
L 751	Inductor	LAU2R2K
L 901	Inductor	CTF1499
L 902	Choke Coil 100µH	CTH1196
L 903	Transformer	CTX1088
L 905	Choke Coil 1.4mH	CTH1129
TH901	Thermistor	CCX1051
X 501	Crystal Resonator 4.332MHz	CSS1056
X 601	Radiator 16MHz	CSS1571
X 602	Radiator 32.768kHz	CSS1319
S 751	Spring Switch(OPEN)	CSN1046
S 752	Spring Switch(CLOSE)	CSN1046
FU901	Fuse 2A	CEK1176
FU902	Fuse 1.75A	CEK1177
FB902	Inductor	CTF1449
FB901	Inductor	CTF1449

RESISTORS

R 101	RS1/16S103J
R 102	RS1/16S153J
R 103	RS1/16S103J
R 104	RS1/16S682J
R 105	RS1/16S0R0J
R 151	RS1/16S104J
R 152	RS1/16S473J
R 153	RS1/16S473J
R 154	RS1/16S473J
R 155	RS1/16S473J
R 156	RS1/16S104J
R 157	RS1/16S104J
R 158	RS1/16S472J
R 159	RS1/16S472J
R 160	RS1/16S104J
R 161	RS1/16S104J
R 162	RS1/16S472J
R 163	RS1/16S472J
R 164	RS1/16S391J
R 165	RS1/16S912J
R 201	RS1/16S822J
R 202	RS1/16S822J
R 203	RS1/16S472J
R 204	RS1/16S472J
R 205	RS1/16S470J
R 206	RS1/16S470J
R 207	RS1/16S472J
R 208	RS1/16S472J
R 209	RS1/16S470J
R 210	RS1/16S470J
R 211	RS1/16S822J
R 212	RS1/16S822J
R 213	RS1/16S470J
R 214	RS1/16S470J

Circuit Symbol and No.	Part Name	Part No.
R 215		RS1/16S472J
R 216		RS1/16S472J
R 217		RS1/16S472J
R 218		RS1/16S472J
R 219		RS1/16S470J
R 220		RS1/16S470J
R 226		RS1/16S822J
R 227		RS1/16S470J
R 228		RS1/16S472J
R 229		RS1/16S472J
R 230		RS1/16S470J
R 231		RS1/16S102J
R 232		RS1/16S272J
R 233		RS1/16S473J
R 234		RS1/16S473J
R 236		RS1/16S473J
R 237		RS1/16S472J
R 238		RS1/16S472J
R 240		RS1/16S472J
R 251		RS1/16S333J
R 252		RS1/16S333J
R 253		RS1/16S333J
R 254		RS1/16S333J
R 255		RS1/16S333J
R 256		RS1/16S333J
R 257		RS1/16S333J
R 258		RS1/16S333J
R 259		RS1/16S753J
R 260		RS1/16S753J
R 261		RS1/16S753J
R 262		RS1/16S753J
R 263		RS1/16S753J
R 264		RS1/16S753J
R 265		RS1/16S753J
R 266		RS1/16S753J
R 301		RS1/16S223J
R 302		RS1/16S472J
R 303		RS1/16S472J
R 304		RS1/16S273J
R 305		RS1/16S472J
R 306		RD1/4PU470J
R 307		RD1/4PU470J
R 308		RS1/16S102J
R 351		RS1/16S223J
R 352		RS1/16S223J
R 353		RS1/16S223J
R 354		RS1/16S332J
R 355		RS1/16S121J
R 356		RS1/16S121J
R 357		RS1/16S221J
R 358		RS1/16S221J
R 359		RS1/16S222J
R 404		RS1/16S473J
R 405		RS1/16S681J
R 406		RS1/16S103J
R 407		RS1/16S681J
R 408		RS1/16S681J
R 409		RS1/16S681J
R 410		RS1/16S473J
R 411		RS1/16S681J
R 412		RS1/16S681J
R 413		RS1/16S272J
R 414		RS1/16S272J

Circuit Symbol and No.	Part Name	Part No.
R 415		RS1/16S393J
R 416		RS1/16S162J
R 417		RS1/16S162J
R 418		RS1/16S472J
R 419		RS1/16S473J
R 420		RS1/16S473J
R 424		RS1/16S222J
R 425		RS1/16S473J
R 501		RS1/16S393J
R 503		RS1/16S681J
R 504		RAB4C102J
R 505		RS1/16S102J
R 602		RS1/16S473J
R 603		RS1/16S473J
R 605		RS1/16S102J
R 607		RS1/16S474J
R 608		RS1/16S474J
R 609		RS1/16S474J
R 610		RS1/16S0R0J
R 611		RS1/16S473J
R 612		RS1/16S471J
R 613		RS1/16S102J
R 614		RS1/16S102J
R 615		RAB4C471J
R 619		RS1/16S471J
R 620		RS1/16S471J
R 621		RS1/16S471J
R 622		RAB4C471J
R 623		RS1/16S102J
R 624		RS1/16S102J
R 625		RS1/16S102J
R 626		RAB4C471J
R 627		RS1/16S471J
R 628		RS1/16S474J
R 629		RS1/16S474J
R 631		RS1/16S473J
R 632		RS1/16S473J
R 633		RS1/16S103J
R 634		RS1/16S102J
R 635		RS1/16S274J
R 636		RS1/16S102J
R 637		RS1/16S274J
R 638		RS1/16S102J
R 640		RS1/16S102J
R 641		RAB4C102J
R 642		RS1/16S102J
R 644		RS1/16S473J
R 649		RS1/16S0R0J
R 651		RS1/16S124J
R 652		RS1/16S102J
R 653		RS1/16S0R0J
R 654		RS1/16S473J
R 655		RAB4C102J
R 656		RS1/16S473J
R 657		RAB4C102J
R 659		RS1/16S471J
R 661		RS1/16S102J
R 662		RAB4C102J
R 663		RAB4C473J
R 664		RS1/16S472J
R 665		RS1/16S471J
R 666		RS1/16S102J
R 667		RS1/16S102J

Circuit Symbol and No.	Part Name	Part No.
R 668		RAB4C0R0J
R 669		RAB4C102J
R 680		RS1/16S473J
R 681		RS1/16S274J
R 685		RS1/16S102J
R 686		RS1/16S102J
R 688		RS1/16S471J
R 689		RS1/16S471J
R 693		RS1/16S102J
R 701		RS1/16S0R0J
R 702		RS1/16S0R0J
R 703		RS1/16S0R0J
R 704		RS1/16S0R0J
R 705		RS1/16S102J
R 706		RS1/16S102J
R 707		RS1/16S102J
R 708		RS1/16S102J
R 709		RS1/16S223J
R 710		RS1/16S223J
R 711		RS1/16S223J
R 712		RS1/16S223J
R 713		RS1/16S223J
R 714		RS1/16S223J
R 715		RS1/16S223J
R 716		RS1/16S223J
R 751		RS1/16S222J
R 752		RS1/16S222J
R 753		RS1/16S681J
R 754		RS1/16S105J
R 755		RS1/16S821J
R 757		RS1/16S223J
R 758		RS1/16S222J
R 759		RS1/16S222J
R 761		RS1/16S681J
R 762		RS1/16S473J
R 763		RS1/16S681J
R 764		RS1/16S681J
R 771		RS1/16S222J
R 772		RS1/16S222J
R 773		RS1/16S473J
R 774		RS1/16S103J
R 775		RS1/16S103J
R 776		RS1/16S473J
R 777		RS1/16S681J
R 778		RS1/16S681J
R 779		RS1/16S332J
R 810		RS1/16S220J
R 811		RS1/16S103J
R 812		RS1/16S103J
R 813		RS1/16S822J
R 814		RS1/16S103J
R 815		RD1/4PU101J
R 821		RS1/16S822J
R 822		RS1/16S471J
R 823		RS1/16S473J
R 824		RS1/16S473J
R 825		RS1/16S473J
R 826		RD1/4PU101J
R 827		RD1/4PU102J
R 828		RS1/16S103J
R 829		RS1/16S471J
R 830		RS1/16S333J
R 831		RS1/16S472J
R 832		RS1/16S223J
R 833		RS1/16S223J
R 841		RD1/4PU472J
R 842		RS1/16S222J
R 843		RS1/16S473J
R 844		RS1/16S333J
R 845		RS1/16S0R0J
R 846		RS1/16S473J
R 851		RS1/16S473J
R 852		RS1/16S473J
R 853		RS1/16S473J
R 854		RS1/16S104J
R 855		RS1/16S473J
R 856		RS1/16S473J
R 858		RD1/4PU102J
R 860		RS1/16S473J
R 862		RS1/16S103J
R 863		RS1/8S362J
R 864		RD1/4PU471J
R 865		RS1/16S103J
R 866		RS1/8S362J
R 867		RS1/16S273J
R 868		RD1/4PU471J
R 871		RS1/16S102J
R 872		RS1/16S102J
R 873		RS1/16S102J
R 874		RS1/16S102J
R 875		RS1/16S102J
R 876		RS1/16S102J
R 901		RS1/10S470J
R 902		RS1/10SR68J
R 903		RN1/10SK3903D
R 904		RS1/10S511J
R 905		RS1/10S151J
R 906		RN1/10SE3302D
R 907		RN1/10SK4303D
R 908		RS1/16S681J
R 909		RS1/16S621J
R 910		RS1/16S333J
R 911		RS1/16S471J
R 912		RS1/16S471J
R 913		RS1/16S471J
R 914		RS1/10S122J
R 915		RS1/16S562J
R 916		RS1/16S223J
R 917		RS1/16S332J
R 918		RS1/16S562J
R 919		RS1/10S102J
R 920		RS1/16S222J
R 921		RS1/16S472J
R 922		RS1/10S471J
R 923		RS1/16S821J
R 924		RS1/16S821J
R 925		RS1/10S681J
R 926		RS1/16S511J
R 927		RS1/16S223J
R 928		RS1/16S511J
R 929		RS1/16S472J
R 930		RS1/16S332J
R 931		RS1/16S124J
R 933		RS1/16S102J
R 934		RD1/4PU2R2J
R 935		RD1/4PU2R2J
R 936		RS1/16S222J

Circuit Symbol and No.	Part Name	Part No.
R 937		RS1/16S911J
R 938		RS1/16S511J
R 939		RS1/16S223J
R 940		RS1/16S511J
R 941		RS1/16S224J
R 942		RS1/16S104J
R 944		RS1/16S822J
R 945		RS1/16S332J
R 946		RS1/16S274J
R 947		RS1/16S104J
R 948		RS1/16S0R0J
R 949		RS1/16S0R0J
R 950		RS1/16S911J
R 951		RS1/16S102J
R 952		RS1/16S153J
R 953		RS1/16S332J
R 955		RS1/4SA101J
R 956		RS1/16S0R0J

CAPACITORS

C 101		CKSQYB225K10
C 102		CKSQYB225K10
C 103		CKSQYB225K10
C 104		CKSQYB225K10
C 105		CKSRYB224K16
C 106		CKSRYB224K16
C 107		CKSRYB474K10
C 108		CKSRYB474K10
C 109		CKSRYB104K16
C 110		CEAL100M16
C 111		CEAL100M16
C 112		CKSRYB105K10
C 113		CKSRYB104K16
C 117		CEALNP100M10
C 118		CEALNP100M10
C 120		CEALNP100M10
C 121		CKSRYB472K50
C 122		CKSRYB472K50
C 123		CCSRCH471J50
C 124		CCSRCH471J50
C 125		CKSRYB473K50
C 151		CKSRYB103K50
C 152		CEALNP100M10
C 153		CEALNP100M10
C 154		CKSRYB105K10
C 155		CKSRYB222K50
C 156		CKSRYB105K10
C 201		CCSRCH101J50
C 202		CCSRCH101J50
C 203		CCSRCH101J50
C 204		CCSRCH101J50
C 207		CKSRYB102K50
C 208		CKSRYB102K50
C 209		CKSRYB102K50
C 210		CKSRYB102K50
C 213		CCSRCH101J50
C 214		CCSRCH101J50
C 215		CCSRCH101J50
C 216		CCSRCH101J50
C 219		CKSRYB102K50
C 220		CKSRYB102K50
C 221		CKSRYB102K50
C 222		CKSRYB102K50

Circuit Symbol and No.	Part Name	Part No.
C 231		CCSRCH101J50
C 232		CCSRCH101J50
C 234		CKSRYB102K50
C 235		CKSRYB102K50
C 237		CEAT331M6R3
C 238		CEAL100M16
C 251		CCSRCH470J50
C 252		CCSRCH470J50
C 253		CCSRCH470J50
C 254		CCSRCH470J50
C 255		CCSRCH470J50
C 256		CCSRCH470J50
C 257		CCSRCH470J50
C 258		CCSRCH470J50
C 259		CEAL100M16
C 260		CEAL100M16
C 261		CEAL100M16
C 262		CEAL100M16
C 263		CEAL100M16
C 264		CEAL100M16
C 265		CKSRYB105K10
C 266		CKSRYB105K10
C 301		CKSRYB223K50
C 302		CEAL100M16
C 303		CEAL220M10
C 304		CKSRYB222K50
C 305		CKSRYB222K50
C 306		CCSQCH101J50
C 307		CCSRCH181J50
C 308		CCSQCH101J50
C 309		CCSRCH181J50
C 351		CKSRYB102K50
C 352		CEJQ101M16
C 353		CKSRYB104K16
C 354		CEAL100M16
C 355		CASA4R7M16
C 357		CKSRYB105K6R3
C 358		CKSYB106K6R3
C 405		CKSRYB103K50
C 406		CKSRYB183K50
C 407		CKSRYB183K50
C 408		CEJQ101M6R3
C 409		CKSRYB103K50
C 410		CEJQ101M16
C 411		CKSRYB472K50
C 412		CKSRYB103K50
C 421		CKSRYB105K10
C 501		CEAL100M16
C 502		CKSRYB104K16
C 503		CEJQ100M16
C 504		CKSRYB104K16
C 505		CKSRYB105K10
C 506		CKSRYB104K16
C 507		CKSRYB472K50
C 508		CCSRCH220J50
C 509		CCSRCH220J50
C 551		CKSRYB102K50
C 552		CKSRYB102K50
C 601		CKSRYB104K16
C 602		CCSRCH180J50
C 603		CKSYB106K6R3
C 604		CCSRCH101J50
C 605		CCSRCH180J50

Circuit Symbol and No.	Part Name	Part No.
C 607		CCSRCH220J50
C 608		CCSRCH180J50
C 609		CKSRYB104K16
C 610		CKSRYB102K50
C 611		CKSRYB103K50
C 612		CKSRYB103K50
C 613		CKSRYB103K50
C 614		CKSRYB102K50
C 615		CKSRYB102K50
C 616		CKSRYB104K16
C 617		CKSRYB104K16
C 618		CCSRCH101J50
C 619		CKSRYB104K16
C 620		CCSRCH101J50
C 702		CKSRYB103K50
C 703		CEAL470M10
C 704		CKSYB475K10
C 705		CKSYB475K10
C 706		CKSYB475K10
C 707		CKSYB475K10
C 751		CKSRYB104K16
C 752		CKSRYB104K16
C 771		CCSRCH681J50
C 772		CCSRCH681J50
C 810		CKSRYB103K50
C 811		CCSRCH101J50
C 841		CCSRCH221J50
C 842		CKSRYB103K50
C 852		CKSRYB102K50
C 853		CCSRCH181J50
C 861		CKSRYB473K50
C 862		CKSRYB473K50
C 871		CKSRYB103K50
C 901		CKSRYB105K10
C 902		CASA470M20
C 903		CKSRYB102K50
C 904		CKSRYB104K25
C 905		CKSRYB104K16
C 906		CKSRYB105K10
C 907		CEHAR470M16
C 908		CEJQ470M10
C 909		CEHAR101M10
C 910		CCSRCH101J50
C 911		CKSRYB103K50
C 912		CKSQYB104K25
C 913		CEJQ4R7M35
C 914		CCSRCH101J50
C 915		CKSRYB104K16
C 916		CEJQ100M25
C 917		CKSRYB102K50
C 918		CEHAT331M10
C 919		CKSRYB223K50
C 920		CKSRYB104K25
C 921		CEJQ220M10
C 922		CASA330M10
C 923		CKSRYB103K50
C 924		CEJQ470M6R3
C 925	470µF/6.3V	CCH1182
C 926	100µF/10V	CCH1323
C 927		CKSRYB103K50
C 928		CKSRYB105K10
C 929		CEHAR101M10
C 930		CCH1163
C 931	3300µF/16V	CKSRYB103K50

Circuit Symbol and No.	Part Name	Part No.
C 932		CKSRYB104K25
C 933		CKSRYB153K50
C 937		CEAT102M16
C 938		CKSRYB103K50
C 939		CKSRYB103K50
C 940	0.1F/5.5V	CCL1023
C 941		CKSRYB473K50
C 942		CKSRYB104K25
C 943		CKSYB105K16
C 944		CCSRCH102J50

A

Unit Number:CWM8036(AVX-MG2227ZF)
Unit Name:Tuner Audio Unit

MISCELLANEOUS

IC 101	IC	PML011A
IC 151	IC	TC7S66F
IC 201	IC	BA4558F-P
IC 202	IC	BA4558F-P
IC 203	IC	BA4558F-P
IC 204	IC	BA4558F-P
IC 206	IC	BA4558F-P
IC 251	IC	NJM4558V
IC 252	IC	NJM4558V
IC 301	IC	DS36277
IC 302	IC	PCA82C250T
IC 303	IC	BA05SFP
IC 501	IC	PM4006B
IC 601	IC	S-29220A
IC 602	IC	PD5665A
IC 603	IC	BU2099FV
IC 604	IC	S-80942ANMP-DD6
IC 771	IC	TC7S86FU
IC 772	Photo-interrupter	GP1S94
IC 773	IC	TC7S14FU
IC 901	IC	TK11835M
IC 902	IC	BA6288FS
IC 903	IC	TK11818M
IC 904	IC	S-81250SGQD
IC 905	IC	PAJ002A
Q 151	Transistor	DTA114EK
Q 201	Transistor	2SC2712
Q 351	Transistor	2SB1185
Q 352	Transistor	IMX1
Q 401	Transistor	2SC2412K
Q 501	Transistor	DTA124EK
Q 602	Transistor	DTC124EU
Q 603	Transistor	DTA124EK
Q 604	Transistor	DTA124EK
Q 701	Transistor	2SC2412K
Q 702	Transistor	2SC2412K
Q 703	Transistor	2SC2412K
Q 704	Transistor	2SC2412K
Q 751	Transistor	IMX1
Q 752	Transistor	2SB1185
Q 753	Transistor	2SB1132
Q 771	Transistor	2SB1238
Q 772	Transistor	DTC114EK
Q 810	Transistor	2SA1576
Q 811	Transistor	DTC124EK
Q 812	Transistor	2SA1674

Circuit Symbol and No.	Part Name	Part No.
Q 821	Transistor	2SC2412K
Q 822	Transistor	2SA1162
Q 823	Transistor	2SC2412K
Q 841	Transistor	2SC2412K
Q 851	Transistor	DTA114EK
Q 852	Transistor	2SC2412K
Q 853	Transistor	DTC114TK
Q 854	Transistor	DTA114EK
Q 901	Transistor	2SB1238
Q 902	Transistor	2SD2353
Q 903	Transistor	DTA143EK
Q 904	Transistor	IMX1
Q 905	Transistor	2SB1185
Q 906	Transistor	DTC114EK
Q 907	Transistor	IMX1
Q 908	Transistor	DTA124EK
Q 909	Transistor	2SB1185
Q 910	Transistor	IMX1
Q 911	Transistor	2SB1238
Q 912	Transistor	2SB1299
Q 913	Transistor	2SB1185
Q 914	Transistor	IMX1
Q 916	Transistor	DTA124EK
D 213	Diode	HZS5LL(B)
D 301	Diode	HZS20L(2)
D 302	Diode	HZS20L(2)
D 303	Diode	HZS20L(2)
D 304	Diode	HZS20L(2)
D 351	Diode	HZS9L(A1)
D 352	Diode	MA111
D 701	Diode	UDZ18(B)
D 702	Diode	UDZ18(B)
D 703	Diode	UDZ18(B)
D 704	Diode	UDZ18(B)
D 705	Diode	UDZ18(B)
D 706	Diode	UDZ18(B)
D 707	Diode	UDZ18(B)
D 708	Diode	UDZ18(B)
D 751	Diode	HZS6L(B2)
D 752	Diode	MA153
D 753	Diode	MA153
D 754	Diode	MA153
D 755	Diode	MA153
D 756	Diode	MA153
D 757	Diode	MA153
D 758	Diode	MA153
D 759	Diode	UDZ10(B)
D 760	Diode	MA153
D 761	Diode	MA153
D 762	Diode	MA153
D 763	Diode	MA153
D 810	Diode	1SS133
D 811	Diode	1SS133
D 821	Diode	HZS5LL(C)
D 822	Diode	1SS133
D 823	Diode	HZS7L(B2)
D 831	Diode	1SS133
D 832	Diode	1SS133
D 841	Diode	HZS6L(B2)
D 842	Chip Diode	MA151WK
D 843	Diode	MA111
D 851	Diode	HZS12L(C1)
D 861	Diode	1SS133
D 862	Diode	1SS133

Circuit Symbol and No.	Part Name	Part No.
D 863	Diode	1SS133
D 864	Diode	1SS133
D 871	Diode	1SS133
D 872	Diode	1SS133
D 901	Diode	HZU7R5(B3)
D 902	Diode	RB500V-40
D 903	Diode	HZS5LL(B)
D 904	Diode	HZS18L(3)
D 905	Chip Diode	MA151WK
D 906	Diode	HZU8R2(B1)
D 908	Diode	UDZ8R2(B)
D 909	Diode	RM4Z-LFJ1
D 921	Diode	ERA15-02VH
D 922	Diode	1SS133
D 923	Diode	1SS133
D 924	Diode	MA111
L 351	Inductor	LCTA2R2J2520
L 403	Inductor	LAU1R0K
L 404	Inductor	LAU1R0K
L 501	Inductor	LAU2R2K
L 502	Inductor	LAU2R2K
L 551	Inductor	LAU1R0K
L 552	Inductor	LAU1R0K
L 601	Chip-Inductor	LCTA2R2J3225
L 602	Inductor	LCTA2R2J2520
L 603	Inductor	CTF1379
L 604	Inductor	CTF1379
L 605	Inductor	CTF1306
L 606	Inductor	CTF1306
L 701	Inductor	LCTB150K2125
L 751	Inductor	LAU2R2K
L 901	Inductor	CTF1499
L 902	Choke Coil 100µH	CTH1196
L 903	Transformer	CTX1088
L 905	Choke Coil 1.4mH	CTH1129
TH901	Thermistor	CCX1051
X 501	Crystal Resonator 4.332MHz	CSS1056
X 601	Radiator 16MHz	CSS1571
X 602	Radiator 32.768kHz	CSS1319
S 751	Spring Switch(OPEN)	CSN1046
S 752	Spring Switch(CLOSE)	CSN1046
FU901	Fuse 2A	CEK1176
FU902	Fuse 1.75A	CEK1177
FB902	Inductor	CTF1449
FB901	Inductor	CTF1449

RESISTORS

R 101		RS1/16S103J
R 102		RS1/16S153J
R 103		RS1/16S103J
R 104		RS1/16S682J
R 105		RS1/16S0R0J
R 151		RS1/16S104J
R 152		RS1/16S473J
R 153		RS1/16S473J
R 154		RS1/16S473J
R 155		RS1/16S473J
R 156		RS1/16S104J
R 157		RS1/16S104J
R 158		RS1/16S472J
R 159		RS1/16S472J
R 160		RS1/16S104J
R 161		RS1/16S104J

Circuit Symbol and No.	Part Name	Part No.
R 162		RS1/16S472J
R 163		RS1/16S472J
R 164		RS1/16S391J
R 165		RS1/16S912J
R 201		RS1/16S822J
R 202		RS1/16S822J
R 203		RS1/16S472J
R 204		RS1/16S472J
R 205		RS1/16S470J
R 206		RS1/16S470J
R 207		RS1/16S472J
R 208		RS1/16S472J
R 209		RS1/16S470J
R 210		RS1/16S470J
R 211		RS1/16S822J
R 212		RS1/16S822J
R 213		RS1/16S470J
R 214		RS1/16S470J
R 215		RS1/16S472J
R 216		RS1/16S472J
R 217		RS1/16S472J
R 218		RS1/16S472J
R 219		RS1/16S470J
R 220		RS1/16S470J
R 226		RS1/16S822J
R 227		RS1/16S470J
R 228		RS1/16S472J
R 229		RS1/16S472J
R 230		RS1/16S470J
R 231		RS1/16S102J
R 232		RS1/16S272J
R 233		RS1/16S473J
R 234		RS1/16S473J
R 236		RS1/16S473J
R 237		RS1/16S472J
R 238		RS1/16S472J
R 240		RS1/16S472J
R 251		RS1/16S333J
R 252		RS1/16S333J
R 253		RS1/16S333J
R 254		RS1/16S333J
R 255		RS1/16S333J
R 256		RS1/16S333J
R 257		RS1/16S333J
R 258		RS1/16S333J
R 259		RS1/16S753J
R 260		RS1/16S753J
R 261		RS1/16S753J
R 262		RS1/16S753J
R 263		RS1/16S753J
R 264		RS1/16S753J
R 265		RS1/16S753J
R 266		RS1/16S753J
R 301		RS1/16S223J
R 302		RS1/16S472J
R 303		RS1/16S472J
R 304		RS1/16S273J
R 305		RS1/16S472J
R 306		RD1/4PU470J
R 307		RD1/4PU470J
R 308		RS1/16S102J
R 351		RS1/16S223J
R 352		RS1/16S223J
R 353		RS1/16S223J

Circuit Symbol and No.	Part Name	Part No.
R 354		RS1/16S332J
R 355		RS1/16S121J
R 356		RS1/16S121J
R 357		RS1/16S221J
R 358		RS1/16S221J
R 359		RS1/16S222J
R 404		RS1/16S473J
R 405		RS1/16S681J
R 406		RS1/16S103J
R 407		RS1/16S681J
R 408		RS1/16S681J
R 409		RS1/16S681J
R 410		RS1/16S473J
R 411		RS1/16S681J
R 412		RS1/16S681J
R 413		RS1/16S272J
R 414		RS1/16S272J
R 415		RS1/16S393J
R 416		RS1/16S162J
R 417		RS1/16S162J
R 418		RS1/16S472J
R 419		RS1/16S473J
R 420		RS1/16S473J
R 424		RS1/16S222J
R 425		RS1/16S473J
R 501		RS1/16S393J
R 503		RS1/16S681J
R 504		RAB4C102J
R 505		RS1/16S102J
R 602		RS1/16S473J
R 603		RS1/16S473J
R 605		RS1/16S102J
R 607		RS1/16S474J
R 608		RS1/16S474J
R 609		RS1/16S474J
R 610		RS1/16S0R0J
R 611		RS1/16S473J
R 612		RS1/16S471J
R 613		RS1/16S102J
R 614		RS1/16S102J
R 615		RAB4C471J
R 619		RS1/16S471J
R 620		RS1/16S471J
R 621		RS1/16S471J
R 622		RAB4C471J
R 623		RS1/16S102J
R 624		RS1/16S102J
R 625		RS1/16S102J
R 626		RAB4C471J
R 627		RS1/16S471J
R 628		RS1/16S474J
R 629		RS1/16S474J
R 630		RS1/16S124J
R 631		RS1/16S274J
R 632		RS1/16S473J
R 633		RS1/16S103J
R 634		RS1/16S102J
R 635		RS1/16S274J
R 636		RS1/16S102J
R 637		RS1/16S274J
R 638		RS1/16S102J
R 640		RS1/16S102J
R 641		RAB4C102J

Circuit Symbol and No.	Part Name	Part No.
R 642		RS1/16S102J
R 644		RS1/16S473J
R 649		RS1/16S0R0J
R 651		RS1/16S124J
R 652		RS1/16S102J
R 653		RS1/16S0R0J
R 654		RS1/16S473J
R 655		RAB4C102J
R 656		RS1/16S473J
R 657		RAB4C102J
R 659		RS1/16S471J
R 661		RS1/16S102J
R 662		RAB4C102J
R 663		RAB4C473J
R 664		RS1/16S472J
R 665		RS1/16S471J
R 666		RS1/16S102J
R 667		RS1/16S102J
R 668		RAB4C0R0J
R 669		RAB4C102J
R 680		RS1/16S473J
R 681		RS1/16S274J
R 685		RS1/16S102J
R 686		RS1/16S102J
R 688		RS1/16S471J
R 689		RS1/16S471J
R 693		RS1/16S102J
R 701		RS1/16S0R0J
R 702		RS1/16S0R0J
R 703		RS1/16S0R0J
R 704		RS1/16S0R0J
R 705		RS1/16S102J
R 706		RS1/16S102J
R 707		RS1/16S102J
R 708		RS1/16S102J
R 709		RS1/16S223J
R 710		RS1/16S223J
R 711		RS1/16S223J
R 712		RS1/16S223J
R 713		RS1/16S223J
R 714		RS1/16S223J
R 715		RS1/16S223J
R 716		RS1/16S223J
R 751		RS1/16S152J
R 752		RS1/16S222J
R 753		RS1/16S681J
R 754		RS1/16S105J
R 757		RS1/16S223J
R 758		RS1/16S222J
R 759		RS1/16S222J
R 761		RS1/16S681J
R 762		RS1/16S473J
R 763		RS1/16S681J
R 764		RS1/16S681J
R 771		RS1/16S222J
R 772		RS1/16S222J
R 773		RS1/16S473J
R 774		RS1/16S103J
R 775		RS1/16S103J
R 776		RS1/16S473J
R 777		RS1/16S681J
R 778		RS1/16S681J
R 779		RS1/16S332J

Circuit Symbol and No.	Part Name	Part No.
R 810		RS1/16S220J
R 811		RS1/16S103J
R 812		RS1/16S103J
R 813		RS1/16S822J
R 814		RS1/16S103J
R 815		RD1/4PU101J
R 821		RS1/16S822J
R 822		RS1/16S471J
R 823		RS1/16S473J
R 824		RS1/16S473J
R 825		RS1/16S473J
R 826		RD1/4PU101J
R 827		RD1/4PU102J
R 828		RS1/16S103J
R 829		RS1/16S471J
R 830		RS1/16S333J
R 831		RS1/16S472J
R 832		RS1/16S223J
R 833		RS1/16S223J
R 834		RD1/4PU471J
R 841		RD1/4PU472J
R 842		RS1/16S222J
R 843		RS1/16S473J
R 844		RS1/16S333J
R 845		RS1/16S0R0J
R 846		RS1/16S473J
R 851		RS1/16S473J
R 852		RS1/16S473J
R 853		RS1/16S682J
R 854		RS1/16S104J
R 855		RS1/16S473J
R 856		RS1/16S473J
R 858		RD1/4PU102J
R 860		RS1/16S473J
R 861		RS1/16S103J
R 862		RS1/16S103J
R 863		RS1/8S362J
R 864		RD1/4PU471J
R 865		RS1/16S103J
R 866		RS1/8S362J
R 867		RS1/16S273J
R 868		RD1/4PU471J
R 871		RS1/16S102J
R 872		RS1/16S102J
R 873		RS1/16S102J
R 874		RS1/16S102J
R 875		RS1/16S102J
R 876		RS1/16S102J
R 901		RS1/10S470J
R 902		RS1/10SR68J
R 903		RN1/10SK3903D
R 904		RS1/10S511J
R 905		RS1/10S151J
R 906		RN1/10SE3302D
R 907		RN1/10SK4303D
R 908		RS1/16S681J
R 909		RS1/16S621J
R 910		RS1/16S333J
R 911		RS1/16S471J
R 912		RS1/16S471J
R 913		RS1/16S471J
R 914		RS1/10S122J
R 915		RS1/16S562J
R 916		RS1/16S223J

Circuit Symbol and No.	Part Name	Part No.
R 917		RS1/16S332J
R 918		RS1/16S562J
R 919		RS1/10S102J
R 920		RS1/16S222J
R 921		RS1/16S472J
R 922		RS1/10S471J
R 923		RS1/16S821J
R 924		RS1/16S821J
R 925		RS1/10S681J
R 926		RS1/16S511J
R 927		RS1/16S223J
R 928		RS1/16S511J
R 929		RS1/16S472J
R 930		RS1/16S332J
R 931		RS1/16S124J
R 933		RS1/16S102J
R 934		RD1/4PU2R2J
R 935		RD1/4PU2R2J
R 936		RS1/16S222J
R 937		RS1/16S911J
R 938		RS1/16S511J
R 939		RS1/16S223J
R 940		RS1/16S511J
R 941		RS1/16S224J
R 942		RS1/16S104J
R 944		RS1/16S822J
R 945		RS1/16S332J
R 946		RS1/16S274J
R 947		RS1/16S104J
R 948		RS1/16S0R0J
R 949		RS1/16S0R0J
R 950		RS1/16S911J
R 951		RS1/16S102J
R 952		RS1/16S153J
R 953		RS1/16S332J
R 955		RS1/4SA101J
R 956		RS1/16S0R0J

CAPACITORS

Circuit Symbol and No.	Part Name	Part No.
C 101		CKSQYB225K10
C 102		CKSQYB225K10
C 103		CKSQYB225K10
C 104		CKSQYB225K10
C 105		CKSRYB224K16
C 106		CKSRYB224K16
C 107		CKSRYB474K10
C 108		CKSRYB474K10
C 109		CKSRYB104K16
C 110		CEAL100M16
C 111		CEAL100M16
C 112		CKSRYB105K10
C 113		CKSRYB104K16
C 117		CEALNP100M10
C 118		CEALNP100M10
C 120		CEALNP100M10
C 121		CKSRYB472K50
C 122		CKSRYB472K50
C 123		CCSRCH471J50
C 124		CCSRCH471J50
C 125		CKSRYB473K50
C 151		CKSRYB103K50
C 152		CEALNP100M10
C 153		CEALNP100M10
C 154		CKSRYB105K10
C 155		CKSRYB222K50
C 156		CKSRYB105K10
C 201		CCSRCH101J50
C 202		CCSRCH101J50
C 203		CCSRCH101J50
C 204		CCSRCH101J50
C 207		CKSRYB102K50
C 208		CKSRYB102K50
C 209		CKSRYB102K50
C 210		CKSRYB102K50
C 213		CCSRCH101J50
C 214		CCSRCH101J50
C 215		CCSRCH101J50
C 216		CCSRCH101J50
C 219		CKSRYB102K50
C 220		CKSRYB102K50
C 221		CKSRYB102K50
C 222		CKSRYB102K50
C 231		CCSRCH101J50
C 232		CCSRCH101J50
C 234		CKSRYB102K50
C 235		CKSRYB102K50
C 237		CEAT331M6R3
C 238		CEAL100M16
C 251		CCSRCH470J50
C 252		CCSRCH470J50
C 253		CCSRCH470J50
C 254		CCSRCH470J50
C 255		CCSRCH470J50
C 256		CCSRCH470J50
C 257		CCSRCH470J50
C 258		CCSRCH470J50
C 259		CEAL100M16
C 260		CEAL100M16
C 261		CEAL100M16
C 262		CEAL100M16
C 263		CEAL100M16
C 264		CEAL100M16
C 265		CKSRYB105K10
C 266		CKSRYB105K10
C 301		CKSRYB223K50
C 302		CEAL100M16
C 303		CEAL220M10
C 304		CKSRYB222K50
C 305		CKSRYB222K50
C 306		CCSQCH101J50
C 307		CCSRCH181J50
C 308		CCSQCH101J50
C 309		CCSRCH181J50
C 351		CKSRYB102K50
C 352		CEJQ101M16
C 353		CKSRYB104K16
C 354		CEAL100M16
C 355		CASA4R7M16
C 357		CKSRYB105K6R3
C 358		CKSYB106K6R3
C 405		CKSRYB103K50
C 406		CKSRYB183K50
C 407		CKSRYB183K50
C 408		CEJQ101M6R3
C 409		CKSRYB103K50
C 410		CEJQ101M16

Circuit Symbol and No.	Part Name	Part No.
C 411		CKSRYB472K50
C 412		CKSRYB103K50
C 421		CKSRYB105K10
C 501		CEAL100M16
C 502		CKSRYB104K16
C 503		CEJQ100M16
C 504		CKSRYB104K16
C 505		CKSRYB105K10
C 506		CKSRYB104K16
C 507		CKSRYB472K50
C 508		CCSRCH220J50
C 509		CCSRCH220J50
C 551		CKSRYB102K50
C 552		CKSRYB102K50
C 601		CKSRYB104K16
C 602		CCSRCH180J50
C 603		CKSYB106K6R3
C 604		CCSRCH101J50
C 605		CCSRCH180J50
C 607		CCSRCH220J50
C 608		CCSRCH180J50
C 609		CKSRYB104K16
C 610		CKSRYB102K50
C 611		CKSRYB103K50
C 612		CKSRYB103K50
C 613		CKSRYB103K50
C 614		CKSRYB102K50
C 615		CKSRYB102K50
C 616		CKSRYB104K16
C 617		CKSRYB104K16
C 618		CCSRCH101J50
C 619		CKSRYB104K16
C 620		CCSRCH101J50
C 702		CKSRYB103K50
C 703		CEAL470M10
C 704		CKSYB475K10
C 705		CKSYB475K10
C 706		CKSYB475K10
C 707		CKSYB475K10
C 751		CKSRYB104K16
C 752		CKSRYB104K16
C 771		CCSRCH681J50
C 772		CCSRCH681J50
C 810		CKSRYB103K50
C 811		CCSRCH101J50
C 831		CKSRYB103K50
C 841		CCSRCH221J50
C 842		CKSRYB103K50
C 852		CKSRYB102K50
C 853		CCSRCH181J50
C 861		CKSRYB473K50
C 862		CKSRYB473K50
C 871		CKSRYB103K50
C 901		CKSRYB105K10
C 902		CASA470M20
C 903		CKSRYB102K50
C 904		CKSRYB104K25
C 905		CKSRYB104K16
C 906		CKSRYB105K10
C 907		CEHAR470M16
C 908		CEJQ470M10
C 909		CEHAR101M10
C 910		CCSRCH101J50

Circuit Symbol and No.	Part Name	Part No.
C 911		CKSRYB103K50
C 912		CKSQYB104K25
C 913		CEJQ4R7M35
C 914		CCSRCH101J50
C 915		CKSRYB104K16
C 916		CEJQ100M25
C 917		CKSRYB102K50
C 918		CEHAT331M10
C 919		CKSRYB223K50
C 920		CKSRYB104K25
C 921		CEJQ220M10
C 922		CASA330M10
C 923		CKSRYB103K50
C 924		CEJQ470M6R3
C 925	470µF/6.3V	CCH1182
C 926		CCH1323
C 927	100µF/10V	CKSRYB103K50
C 928		CKSRYB105K10
C 929		CEHAR101M10
C 930	3300µF/16V	CCH1163
C 931		CKSRYB103K50
C 932		CKSRYB104K25
C 933		CKSRYB153K50
C 937		CEAT102M16
C 938		CKSRYB103K50
C 939		CKSRYB103K50
C 940	0.1F/5.5V	CCL1023
C 941		CKSRYB473K50
C 942		CKSRYB104K25
C 943		CKSYB105K16
C 944		CCSRCH102J50

A

Unit Number:CWM8037(AVX-MG2327ZF)
Unit Name:Tuner Audio Unit

MISCELLANEOUS

IC 101	IC	PML011A
IC 151	IC	TC7S66F
IC 201	IC	BA4558F-P
IC 202	IC	BA4558F-P
IC 203	IC	BA4558F-P
IC 204	IC	BA4558F-P
IC 206	IC	BA4558F-P
IC 251	IC	NJM4558V
IC 252	IC	NJM4558V
IC 301	IC	DS36277
IC 302	IC	PCA82C250T
IC 303	IC	BA05SFP
IC 501	IC	PM4006B
IC 601	IC	S-29220A
IC 602	IC	PD5665A
IC 603	IC	BU2099FV
IC 604	IC	S-80942ANMP-DD6
IC 771	IC	TC7S86FU
IC 772	Photo-interrupter	GP1S94
IC 773	IC	TC7S14FU
IC 901	IC	TK11835M
IC 902	IC	BA6288FS
IC 903	IC	TK11818M
IC 904	IC	S-81250SGQD
IC 905	IC	PAJ002A

Circuit Symbol and No.	Part Name	Part No.
Q 151	Transistor	DTA114EK
Q 201	Transistor	2SC2712
Q 351	Transistor	2SB1185
Q 352	Transistor	IMX1
Q 401	Transistor	2SC2412K
Q 501	Transistor	DTA124EK
Q 602	Transistor	DTC124EU
Q 603	Transistor	DTA124EK
Q 604	Transistor	DTA124EK
Q 701	Transistor	2SC2412K
Q 702	Transistor	2SC2412K
Q 703	Transistor	2SC2412K
Q 704	Transistor	2SC2412K
Q 751	Transistor	IMX1
Q 752	Transistor	2SB1185
Q 753	Transistor	2SB1132
Q 771	Transistor	2SB1238
Q 772	Transistor	DTC114EK
Q 810	Transistor	2SA1576
Q 811	Transistor	DTC124EK
Q 812	Transistor	2SA1674
Q 821	Transistor	2SC2412K
Q 822	Transistor	2SA1162
Q 823	Transistor	2SC2412K
Q 841	Transistor	2SC2412K
Q 851	Transistor	DTA114EK
Q 852	Transistor	2SC2412K
Q 853	Transistor	DTC114TK
Q 854	Transistor	DTA114EK
Q 901	Transistor	2SB1238
Q 902	Transistor	2SD2353
Q 903	Transistor	DTA143EK
Q 904	Transistor	IMX1
Q 905	Transistor	2SB1185
Q 906	Transistor	DTC114EK
Q 907	Transistor	IMX1
Q 908	Transistor	DTA124EK
Q 909	Transistor	2SB1185
Q 910	Transistor	IMX1
Q 911	Transistor	2SB1238
Q 912	Transistor	2SB1299
Q 913	Transistor	2SB1185
Q 914	Transistor	IMX1
Q 916	Transistor	DTA124EK
D 213	Diode	HZS5LL(B)
D 301	Diode	HZS20L(2)
D 302	Diode	HZS20L(2)
D 303	Diode	HZS20L(2)
D 304	Diode	HZS20L(2)
D 351	Diode	HZS9L(A1)
D 352	Diode	MA111
D 701	Diode	UDZ18(B)
D 702	Diode	UDZ18(B)
D 703	Diode	UDZ18(B)
D 704	Diode	UDZ18(B)
D 705	Diode	UDZ18(B)
D 706	Diode	UDZ18(B)
D 707	Diode	UDZ18(B)
D 708	Diode	UDZ18(B)
D 751	Diode	HZS6L(B2)
D 752	Diode	MA153
D 753	Diode	MA153
D 754	Diode	MA153

Circuit Symbol and No.	Part Name	Part No.
D 755	Diode	MA153
D 756	Diode	MA153
D 757	Diode	MA153
D 758	Diode	MA153
D 759	Diode	UDZ10(B)
D 760	Diode	MA153
D 761	Diode	MA153
D 762	Diode	MA153
D 763	Diode	MA153
D 810	Diode	1SS133
D 811	Diode	1SS133
D 821	Diode	HZS5LL(C)
D 822	Diode	1SS133
D 823	Diode	HZS7L(B2)
D 831	Diode	1SS133
D 832	Diode	1SS133
D 841	Diode	HZS6L(B2)
D 842	Chip Diode	MA151WK
D 843	Diode	MA111
D 851	Diode	HZS12L(C1)
D 861	Diode	1SS133
D 862	Diode	1SS133
D 863	Diode	1SS133
D 864	Diode	1SS133
D 871	Diode	1SS133
D 872	Diode	1SS133
D 901	Diode	HZU7R5(B3)
D 902	Diode	RB500V-40
D 903	Diode	HZS5LL(B)
D 904	Diode	HZS18L(3)
D 905	Chip Diode	MA151WK
D 906	Diode	HZU8R2(B1)
D 908	Diode	UDZ8R2(B)
D 909	Diode	RM4Z-LFJ1
D 921	Diode	ERA15-02VH
D 922	Diode	1SS133
D 923	Diode	1SS133
D 924	Diode	MA111
L 351	Inductor	LCTA2R2J2520
L 403	Inductor	LAU1R0K
L 404	Inductor	LAU1R0K
L 501	Inductor	LAU2R2K
L 502	Inductor	LAU2R2K
L 551	Inductor	LAU1R0K
L 552	Inductor	LAU1R0K
L 601	Chip-Inductor	LCTA2R2J3225
L 602	Inductor	LCTA2R2J2520
L 603	Inductor	CTF1379
L 604	Inductor	CTF1379
L 605	Inductor	CTF1306
L 606	Inductor	CTF1306
L 701	Inductor	LCTB150K2125
L 751	Inductor	LAU2R2K
L 901	Inductor	CTF1499
L 902	Choke Coil 100µH	CTH1196
L 903	Transformer	CTX1088
L 905	Choke Coil 1.4mH	CTH1129
TH901	Thermistor	CCX1051
X 501	Crystal Resonator 4.332MHz	CSS1056
X 601	Radiator 16MHz	CSS1571
X 602	Radiator 32.768kHz	CSS1319
S 751	Spring Switch(OPEN)	CSN1046
S 752	Spring Switch(CLOSE)	CSN1046

Circuit Symbol and No.	Part Name	Part No.
FU901	Fuse 2A	CEK1176
FU902	Fuse 1.75A	CEK1177
FB902	Inductor	CTF1449
FB901	Inductor	CTF1449

RESISTORS

R 101	RS1/16S103J
R 102	RS1/16S153J
R 103	RS1/16S103J
R 104	RS1/16S682J
R 105	RS1/16S0R0J
R 151	RS1/16S104J
R 152	RS1/16S473J
R 153	RS1/16S473J
R 154	RS1/16S473J
R 155	RS1/16S473J
R 156	RS1/16S104J
R 157	RS1/16S104J
R 158	RS1/16S472J
R 159	RS1/16S472J
R 160	RS1/16S104J
R 161	RS1/16S104J
R 162	RS1/16S472J
R 163	RS1/16S472J
R 164	RS1/16S391J
R 165	RS1/16S912J
R 201	RS1/16S822J
R 202	RS1/16S822J
R 203	RS1/16S472J
R 204	RS1/16S472J
R 205	RS1/16S470J
R 206	RS1/16S470J
R 207	RS1/16S472J
R 208	RS1/16S472J
R 209	RS1/16S470J
R 210	RS1/16S470J
R 211	RS1/16S822J
R 212	RS1/16S822J
R 213	RS1/16S470J
R 214	RS1/16S470J
R 215	RS1/16S472J
R 216	RS1/16S472J
R 217	RS1/16S472J
R 218	RS1/16S472J
R 219	RS1/16S470J
R 220	RS1/16S470J
R 226	RS1/16S822J
R 227	RS1/16S470J
R 228	RS1/16S472J
R 229	RS1/16S472J
R 230	RS1/16S470J
R 231	RS1/16S102J
R 232	RS1/16S272J
R 233	RS1/16S473J
R 234	RS1/16S473J
R 236	RS1/16S473J
R 237	RS1/16S472J
R 238	RS1/16S472J
R 240	RS1/16S472J
R 251	RS1/16S333J
R 252	RS1/16S333J
R 253	RS1/16S333J
R 254	RS1/16S333J
R 255	RS1/16S333J

Circuit Symbol and No.	Part Name	Part No.
R 256		RS1/16S333J
R 257		RS1/16S333J
R 258		RS1/16S333J
R 259		RS1/16S753J
R 260		RS1/16S753J
R 261		RS1/16S753J
R 262		RS1/16S753J
R 263		RS1/16S753J
R 264		RS1/16S753J
R 265		RS1/16S753J
R 266		RS1/16S753J
R 301		RS1/16S223J
R 302		RS1/16S472J
R 303		RS1/16S472J
R 304		RS1/16S273J
R 305		RS1/16S472J
R 306		RD1/4PU470J
R 307		RD1/4PU470J
R 308		RS1/16S102J
R 351		RS1/16S223J
R 352		RS1/16S223J
R 353		RS1/16S223J
R 354		RS1/16S332J
R 355		RS1/16S121J
R 356		RS1/16S121J
R 357		RS1/16S221J
R 358		RS1/16S221J
R 359		RS1/16S222J
R 404		RS1/16S473J
R 405		RS1/16S681J
R 406		RS1/16S103J
R 407		RS1/16S681J
R 408		RS1/16S681J
R 409		RS1/16S681J
R 410		RS1/16S473J
R 411		RS1/16S681J
R 412		RS1/16S681J
R 413		RS1/16S272J
R 414		RS1/16S272J
R 415		RS1/16S393J
R 416		RS1/16S162J
R 417		RS1/16S162J
R 418		RS1/16S472J
R 419		RS1/16S473J
R 420		RS1/16S473J
R 424		RS1/16S222J
R 425		RS1/16S473J
R 501		RS1/16S393J
R 503		RS1/16S681J
R 504		RAB4C102J
R 505		RS1/16S102J
R 602		RS1/16S473J
R 603		RS1/16S473J
R 605		RS1/16S102J
R 607		RS1/16S474J
R 608		RS1/16S474J
R 609		RS1/16S474J
R 610		RS1/16S0R0J
R 611		RS1/16S473J
R 612		RS1/16S471J
R 613		RS1/16S102J
R 614		RS1/16S102J
R 615		RAB4C471J

Circuit Symbol and No.	Part Name	Part No.
R 619		RS1/16S471J
R 620		RS1/16S471J
R 621		RS1/16S471J
R 622		RAB4C471J
R 623		RS1/16S102J
R 624		RS1/16S102J
R 625		RS1/16S102J
R 626		RAB4C471J
R 627		RS1/16S471J
R 628		RS1/16S474J
R 629		RS1/16S474J
R 630		RS1/16S473J
R 632		RS1/16S473J
R 633		RS1/16S103J
R 634		RS1/16S102J
R 635		RS1/16S274J
R 636		RS1/16S102J
R 637		RS1/16S274J
R 638		RS1/16S102J
R 640		RS1/16S102J
R 641		RAB4C102J
R 642		RS1/16S102J
R 644		RS1/16S473J
R 649		RS1/16S0R0J
R 651		RS1/16S124J
R 652		RS1/16S102J
R 653		RS1/16S0R0J
R 654		RS1/16S473J
R 655		RAB4C102J
R 656		RS1/16S473J
R 657		RAB4C102J
R 659		RS1/16S471J
R 661		RS1/16S102J
R 662		RAB4C102J
R 663		RAB4C473J
R 664		RS1/16S472J
R 665		RS1/16S471J
R 666		RS1/16S102J
R 667		RS1/16S102J
R 668		RAB4C0R0J
R 669		RAB4C102J
R 680		RS1/16S473J
R 681		RS1/16S274J
R 685		RS1/16S102J
R 686		RS1/16S102J
R 688		RS1/16S471J
R 689		RS1/16S471J
R 693		RS1/16S102J
R 701		RS1/16S0R0J
R 702		RS1/16S0R0J
R 703		RS1/16S0R0J
R 704		RS1/16S0R0J
R 705		RS1/16S102J
R 706		RS1/16S102J
R 707		RS1/16S102J
R 708		RS1/16S102J
R 709		RS1/16S223J
R 710		RS1/16S223J
R 711		RS1/16S223J
R 712		RS1/16S223J
R 713		RS1/16S223J
R 714		RS1/16S223J
R 715		RS1/16S223J
R 716		RS1/16S223J

Circuit Symbol and No.	Part Name	Part No.
R 751		RS1/16S152J
R 752		RS1/16S222J
R 753		RS1/16S681J
R 754		RS1/16S105J
R 757		RS1/16S223J
R 758		RS1/16S222J
R 759		RS1/16S222J
R 761		RS1/16S681J
R 762		RS1/16S473J
R 763		RS1/16S681J
R 764		RS1/16S681J
R 771		RS1/16S222J
R 772		RS1/16S222J
R 773		RS1/16S473J
R 774		RS1/16S103J
R 775		RS1/16S103J
R 776		RS1/16S473J
R 777		RS1/16S681J
R 778		RS1/16S681J
R 779		RS1/16S332J
R 810		RS1/16S220J
R 811		RS1/16S103J
R 812		RS1/16S103J
R 813		RS1/16S822J
R 814		RS1/16S103J
R 815		RD1/4PU101J
R 821		RS1/16S822J
R 822		RS1/16S471J
R 823		RS1/16S473J
R 824		RS1/16S473J
R 825		RS1/16S473J
R 826		RD1/4PU101J
R 827		RD1/4PU102J
R 828		RS1/16S103J
R 829		RS1/16S471J
R 830		RS1/16S333J
R 831		RS1/16S472J
R 832		RS1/16S223J
R 833		RS1/16S223J
R 834		RD1/4PU471J
R 841		RD1/4PU472J
R 842		RS1/16S222J
R 843		RS1/16S473J
R 844		RS1/16S333J
R 845		RS1/16S0R0J
R 846		RS1/16S473J
R 851		RS1/16S473J
R 852		RS1/16S473J
R 853		RS1/16S682J
R 854		RS1/16S104J
R 855		RS1/16S473J
R 856		RS1/16S473J
R 858		RD1/4PU102J
R 860		RS1/16S473J
R 861		RS1/16S103J
R 862		RS1/16S103J
R 863		RS1/8S362J
R 864		RD1/4PU471J
R 865		RS1/16S103J
R 866		RS1/8S362J
R 867		RS1/16S273J
R 868		RD1/4PU471J
R 871		RS1/16S102J

Circuit Symbol and No.	Part Name	Part No.
R 872		RS1/16S102J
R 873		RS1/16S102J
R 874		RS1/16S102J
R 875		RS1/16S102J
R 876		RS1/16S102J
R 901		RS1/10S470J
R 902		RS1/10SR68J
R 903		RN1/10SK3903D
R 904		RS1/10S511J
R 905		RS1/10S151J
R 906		RN1/10SE3302D
R 907		RN1/10SK4303D
R 908		RS1/16S681J
R 909		RS1/16S621J
R 910		RS1/16S333J
R 911		RS1/16S471J
R 912		RS1/16S471J
R 913		RS1/16S471J
R 914		RS1/10S122J
R 915		RS1/16S562J
R 916		RS1/16S223J
R 917		RS1/16S332J
R 918		RS1/16S562J
R 919		RS1/10S102J
R 920		RS1/16S222J
R 921		RS1/16S472J
R 922		RS1/10S471J
R 923		RS1/16S821J
R 924		RS1/16S821J
R 925		RS1/10S681J
R 926		RS1/16S511J
R 927		RS1/16S223J
R 928		RS1/16S511J
R 929		RS1/16S472J
R 930		RS1/16S332J
R 931		RS1/16S124J
R 933		RS1/16S102J
R 934		RD1/4PU2R2J
R 935		RD1/4PU2R2J
R 936		RS1/16S222J
R 937		RS1/16S911J
R 938		RS1/16S511J
R 939		RS1/16S223J
R 940		RS1/16S511J
R 941		RS1/16S224J
R 942		RS1/16S104J
R 944		RS1/16S822J
R 945		RS1/16S332J
R 946		RS1/16S274J
R 947		RS1/16S104J
R 948		RS1/16S0R0J
R 949		RS1/16S0R0J
R 950		RS1/16S911J
R 951		RS1/16S102J
R 952		RS1/16S153J
R 953		RS1/16S332J
R 955		RS1/4SA101J
R 956		RS1/16S0R0J

CAPACITORS

Circuit Symbol and No.	Part Name	Part No.
C 101		CKSQYB225K10
C 102		CKSQYB225K10
C 103		CKSQYB225K10
C 104		CKSQYB225K10
C 105		CKSRYB224K16
C 106		CKSRYB224K16
C 107		CKSRYB474K10
C 108		CKSRYB474K10
C 109		CKSRYB104K16
C 110		CEAL100M16
C 111		CEAL100M16
C 112		CKSRYB105K10
C 113		CKSRYB104K16
C 117		CEALNP100M10
C 118		CEALNP100M10
C 120		CEALNP100M10
C 121		CKSRYB472K50
C 122		CKSRYB472K50
C 123		CCSRCH471J50
C 124		CCSRCH471J50
C 125		CKSRYB473K50
C 151		CKSRYB103K50
C 152		CEALNP100M10
C 153		CEALNP100M10
C 154		CKSRYB105K10
C 155		CKSRYB222K50
C 156		CKSRYB105K10
C 201		CCSRCH101J50
C 202		CCSRCH101J50
C 203		CCSRCH101J50
C 204		CCSRCH101J50
C 207		CKSRYB102K50
C 208		CKSRYB102K50
C 209		CKSRYB102K50
C 210		CKSRYB102K50
C 213		CCSRCH101J50
C 214		CCSRCH101J50
C 215		CCSRCH101J50
C 216		CCSRCH101J50
C 219		CKSRYB102K50
C 220		CKSRYB102K50
C 221		CKSRYB102K50
C 222		CKSRYB102K50
C 231		CCSRCH101J50
C 232		CCSRCH101J50
C 234		CKSRYB102K50
C 235		CKSRYB102K50
C 237		CEAT331M6R3
C 238		CEAL100M16
C 251		CCSRCH470J50
C 252		CCSRCH470J50
C 253		CCSRCH470J50
C 254		CCSRCH470J50
C 255		CCSRCH470J50
C 256		CCSRCH470J50
C 257		CCSRCH470J50
C 258		CCSRCH470J50
C 259		CEAL100M16
C 260		CEAL100M16
C 261		CEAL100M16
C 262		CEAL100M16
C 263		CEAL100M16
C 264		CEAL100M16
C 265		CKSRYB105K10
C 266		CKSRYB105K10
C 301		CKSRYB223K50

Circuit Symbol and No.	Part Name	Part No.
C 302		CEAL100M16
C 303		CEAL220M10
C 304		CKSRYB222K50
C 305		CKSRYB222K50
C 306		CCSQCH101J50
C 307		CCSRCH181J50
C 308		CCSQCH101J50
C 309		CCSRCH181J50
C 351		CKSRYB102K50
C 352		CEJQ101M16
C 353		CKSRYB104K16
C 354		CEAL100M16
C 355		CASA4R7M16
C 357		CKSRYB105K6R3
C 358		CKSYB106K6R3
C 405		CKSRYB103K50
C 406		CKSRYB183K50
C 407		CKSRYB183K50
C 408		CEJQ101M6R3
C 409		CKSRYB103K50
C 410		CEJQ101M16
C 411		CKSRYB472K50
C 412		CKSRYB103K50
C 421		CKSRYB105K10
C 501		CEAL100M16
C 502		CKSRYB104K16
C 503		CEJQ100M16
C 504		CKSRYB104K16
C 505		CKSRYB105K10
C 506		CKSRYB104K16
C 507		CKSRYB472K50
C 508		CCSRCH220J50
C 509		CCSRCH220J50
C 551		CKSRYB102K50
C 552		CKSRYB102K50
C 601		CKSRYB104K16
C 602		CCSRCH180J50
C 603		CKSYB106K6R3
C 604		CCSRCH101J50
C 605		CCSRCH180J50
C 607		CCSRCH220J50
C 608		CCSRCH180J50
C 609		CKSRYB104K16
C 610		CKSRYB102K50
C 611		CKSRYB103K50
C 612		CKSRYB103K50
C 613		CKSRYB103K50
C 614		CKSRYB102K50
C 615		CKSRYB102K50
C 616		CKSRYB104K16
C 617		CKSRYB104K16
C 618		CCSRCH101J50
C 619		CKSRYB104K16
C 620		CCSRCH101J50
C 702		CKSRYB103K50
C 703		CEAL470M10
C 704		CKSYB475K10
C 705		CKSYB475K10
C 706		CKSYB475K10
C 707		CKSYB475K10
C 751		CKSRYB104K16
C 752		CKSRYB104K16
C 771		CCSRCH681J50
C 772		CCSRCH681J50

Circuit Symbol and No.	Part Name	Part No.
C 810		CKSRYB103K50
C 811		CCSRCH101J50
C 831		CKSRYB103K50
C 841		CCSRCH221J50
C 842		CKSRYB103K50
C 852		CKSRYB102K50
C 853		CCSRCH181J50
C 861		CKSRYB473K50
C 862		CKSRYB473K50
C 871		CKSRYB103K50
C 901		CKSRYB105K10
C 902		CASA470M20
C 903		CKSRYB102K50
C 904		CKSRYB104K25
C 905		CKSRYB104K16
C 906		CKSRYB105K10
C 907		CEHAR470M16
C 908		CEJQ470M10
C 909		CEHAR101M10
C 910		CCSRCH101J50
C 911		CKSRYB103K50
C 912		CKSQYB104K25
C 913		CEJQ4R7M35
C 914		CCSRCH101J50
C 915		CKSRYB104K16
C 916		CEJQ100M25
C 917		CKSRYB102K50
C 918		CEHAT331M10
C 919		CKSRYB223K50
C 920		CKSRYB104K25
C 921		CEJQ220M10
C 922		CASA330M10
C 923		CKSRYB103K50
C 924		CEJQ470M6R3
C 925	470µF/6.3V	CCH1182
C 926	100µF/10V	CCH1323
C 927		CKSRYB103K50
C 928		CKSRYB105K10
C 929		CEHAR101M10
C 930	3300µF/16V	CCH1163
C 931		CKSRYB103K50
C 932		CKSRYB104K25
C 933		CKSRYB153K50
C 937		CEAT102M16
C 938		CKSRYB103K50
C 939		CKSRYB103K50
C 940	0.1F/5.5V	CCL1023
C 941		CKSRYB473K50
C 942		CKSRYB104K25
C 943		CKSYB105K16
C 944		CCSRCH102J50

B

Unit Number:CWM7805
Unit Name:DSP Unit

MISCELLANEOUS

IC 1001	IC	PD2071A
IC 1051	IC	PD2071A
IC 1101	IC	NJM4558MD
IC 1102	IC	NJM4558MD

Circuit Symbol and No.	Part Name	Part No.
IC 1201	IC	NJM4558MD
IC 1202	IC	NJM4558MD
IC 1203	IC	NJM4558MD
D 1101	Diode	HZU4R3(B2)
L 1001	Inductor	LCTA2R2J2520
L 1002	Inductor	CTF1379
L 1003	Inductor	CTF1379
L 1004	Inductor	CTF1379
L 1005	Inductor	CTF1379
L 1006	Inductor	CTF1379
L 1007	Inductor	CTF1379
L 1009	Inductor	CTF1379
L 1010	Inductor	LCTA2R2J2520
L 1011	Inductor	CTF1379
L 1012	Inductor	CTF1379
L 1013	Inductor	CTF1379
L 1014	Inductor	CTF1379
L 1016	Inductor	CTF1379
L 1017	Inductor	CTF1379
L 1018	Inductor	CTF1379
L 1019	Inductor	CTF1379
L 1020	Inductor	CTF1379
L 1021	Inductor	CTF1379
L 1022	Inductor	CTF1379
L 1023	Inductor	CTF1378
L 1051	Inductor	LCTA2R2J2520
L 1052	Inductor	CTF1379
L 1053	Inductor	CTF1379
L 1054	Inductor	CTF1379
L 1055	Inductor	CTF1379
L 1056	Inductor	CTF1379
L 1058	Inductor	CTF1379
L 1059	Inductor	CTF1379
L 1060	Inductor	LCTA2R2J2520
L 1061	Inductor	CTF1379
L 1062	Inductor	CTF1379
L 1063	Inductor	CTF1379
L 1064	Inductor	CTF1379
L 1066	Inductor	CTF1379
L 1067	Inductor	CTF1379
L 1068	Inductor	CTF1379
L 1069	Inductor	CTF1379
L 1070	Inductor	CTF1379
L 1071	Inductor	CTF1379
L 1072	Inductor	CTF1379
X 1001	Radiator 22.5792MHz	CSS1406

RESISTORS

R 1001		RS1/16S221J
R 1002		RS1/16S221J
R 1004		RS1/16S473J
R 1005		RS1/16S471J
R 1006		RS1/16S221J
R 1007		RS1/16S471J
R 1008		RS1/16S471J
R 1009		RS1/16S471J
R 1011		RS1/16S471J
R 1012		RS1/16S471J
R 1013		RS1/16S471J
R 1014		RS1/16S473J
R 1015		RS1/16S473J
R 1016		RS1/16S473J
R 1017		RS1/16S473J
R 1018		RS1/16S473J
R 1019		RS1/16S473J
R 1020		RS1/16S225J
R 1021		RS1/16S102J
R 1022		RS1/16S473J
R 1051		RS1/16S473J
R 1052		RS1/16S471J
R 1053		RS1/16S0R0J
R 1054		RS1/16S0R0J
R 1055		RS1/16S0R0J
R 1056		RS1/16S471J
R 1057		RS1/16S471J
R 1058		RS1/16S471J
R 1060		RS1/16S471J
R 1061		RS1/16S471J
R 1062		RS1/16S471J
R 1063		RS1/16S473J
R 1064		RS1/16S473J
R 1065		RS1/16S473J
R 1066		RS1/16S473J
R 1067		RS1/16S473J
R 1068		RS1/16S473J
R 1069		RS1/16S225J
R 1070		RS1/16S473J
R 1101		RS1/16S224J
R 1102		RS1/16S224J
R 1103		RS1/16S103J
R 1104		RS1/16S103J
R 1107		RS1/16S103J
R 1108		RS1/16S103J
R 1109		RS1/16S123J
R 1110		RS1/16S123J
R 1111		RS1/16S391J
R 1112		RS1/16S224J
R 1113		RS1/16S224J
R 1114		RS1/16S103J
R 1115		RS1/16S103J
R 1118		RS1/16S103J
R 1119		RS1/16S103J
R 1120		RS1/16S123J
R 1121		RS1/16S123J
R 1201		RS1/16S224J
R 1202		RS1/16S224J
R 1203		RS1/16S472J
R 1204		RS1/16S472J
R 1207		RS1/16S472J
R 1208		RS1/16S472J
R 1209		RS1/16S472J
R 1210		RS1/16S472J
R 1211		RS1/16S224J
R 1212		RS1/16S224J
R 1213		RS1/16S472J
R 1214		RS1/16S472J
R 1217		RS1/16S472J
R 1218		RS1/16S472J
R 1219		RS1/16S472J
R 1220		RS1/16S472J
R 1221		RS1/16S224J
R 1223		RS1/16S472J
R 1227		RS1/16S472J
R 1229		RS1/16S472J
R 1231		RS1/16S103J

CAPACITORS

Circuit Symbol and No.	Part Name	Part No.
C 1001		CEAL470M6R3
C 1002		CEAL470M6R3
C 1003		CKSRYB104K16
C 1004		CKSRYB104K16
C 1005		CEAL470M6R3
C 1006		CEAL470M6R3
C 1007		CEAL470M6R3
C 1008		CKSRYB104K16
C 1009		CEAL470M6R3
C 1010		CEAL470M6R3
C 1011		CEAL470M6R3
C 1012		CKSRYB104K16
C 1013		CKSRYB104K16
C 1014		CEAL470M6R3
C 1015		CKSRYB104K16
C 1016		CKSRYB104K16
C 1017		CKSRYB104K16
C 1018		CKSRYB104K16
C 1019		CEAL470M6R3
C 1020		CEAL470M6R3
C 1021		CEAL470M6R3
C 1022		CEAL470M6R3
C 1023		CKSRYB104K16
C 1024		CCSRCH120J50
C 1025		CCSRCH120J50
C 1027		CKSRYB104K16
C 1031		CKSRYB104K16
C 1032		CKSRYB104K16
C 1051		CEAL470M6R3
C 1052		CEAL470M6R3
C 1053		CKSRYB104K16
C 1054		CKSRYB104K16
C 1055		CEAL470M6R3
C 1056		CEAL470M6R3
C 1057		CEAL470M6R3
C 1058		CKSRYB104K16
C 1059		CEAL470M6R3
C 1060		CEAL470M6R3
C 1061		CEAL470M6R3
C 1062		CKSRYB104K16
C 1063		CKSRYB104K16
C 1064		CEAL470M6R3
C 1065		CKSRYB104K16
C 1066		CKSRYB104K16
C 1067		CKSRYB104K16
C 1068		CKSRYB104K16
C 1069		CEAL470M6R3
C 1070		CEAL470M6R3
C 1071		CEAL470M6R3
C 1072		CEAL470M6R3
C 1073		CKSRYB104K16
C 1075		CKSRYB103K50
C 1076		CKSRYB104K16
C 1081		CKSRYB104K16
C 1082		CKSRYB104K16
C 1101		CKSRYB105K10
C 1102		CKSRYB105K10
C 1103		CCSRCH220J50
C 1104		CCSRCH220J50
C 1105		CCSRCH221J50
C 1106		CCSRCH221J50
C 1107		CKSRYB103K50
C 1108		CKSRYB102K50
C 1109		CEAL101M6R3
C 1110		CKSRYB105K10
C 1111		CKSRYB105K10
C 1112		CCSRCH220J50
C 1113		CCSRCH220J50
C 1114		CCSRCH221J50
C 1115		CCSRCH221J50
C 1116		CKSRYB103K50
C 1117		CEALNP4R7M35
C 1118		CEALNP4R7M35
C 1119		CEALNP4R7M35
C 1120		CEALNP4R7M35
C 1201		CKSRYB105K10
C 1202		CKSRYB105K10
C 1203		CCSRCH681J50
C 1204		CCSRCH681J50
C 1205		CKSRYB182K50
C 1206		CKSRYB182K50
C 1207		CCSRCH101J50
C 1208		CCSRCH101J50
C 1209		CKSRYB103K50
C 1210		CKSQYB225K10
C 1211		CKSQYB225K10
C 1212		CKSRYB105K10
C 1213		CKSRYB105K10
C 1214		CCSRCH681J50
C 1215		CCSRCH681J50
C 1216		CKSRYB182K50
C 1217		CKSRYB182K50
C 1218		CCSRCH101J50
C 1219		CCSRCH101J50
C 1220		CKSRYB103K50
C 1221		CKSQYB225K10
C 1222		CKSQYB225K10
C 1223		CKSRYB105K10
C 1225		CCSRCH681J50
C 1227		CKSRYB182K50
C 1229		CCSRCH101J50
C 1231		CKSRYB103K50
C 1232		CKSQYB225K10

F

Unit Number:CWM7801 (AVX-MG2027ZF,MG2127ZF)

Unit Name:Panel PCB Unit

MISCELLANEOUS

IC 1801	IC	BU2099FV
Q 1801	Transistor	DTC144EU
Q 1802	Transistor	DTC144EU
Q 1804	Transistor	2SB1132
D 1807	LED	CL170PGCD(AB)
D 1808	LED	CL170PGCD(AB)
D 1809	LED	CL170PGCD(AB)
D 1810	LED	CL170PGCD(AB)
D 1811	LED	CL170PGCD(AB)
D 1812	LED	CL170PGCD(AB)
D 1815	LED	CL170PGCD(AB)
D 1816	LED	CL170PGCD(AB)
D 1817	Diode	DAN202U
D 1820	Diode	RB751V40

Circuit Symbol and No.	Part Name	Part No.
D 1831	LED	CL170PGCD(AB)
D 1832	LED	CL170PGCD(AB)
D 1833	LED	CL170PGCD(AB)
D 1834	LED	CL170PGCD(AB)
D 1835	LED	CL170PGCD(AB)
D 1836	LED	CL170PGCD(AB)
D 1837	LED	CL170PGCD(AB)
D 1838	LED	CL170PGCD(AB)
D 1839	LED	CL170PGCD(AB)
S 1801	Push Switch	CSG1126
S 1802	Push Switch	CSG1126
S 1803	Push Switch	CSG1126
S 1804	Push Switch	CSG1126
S 1805	Push Switch	CSG1126
S 1806	Push Switch	CSG1126
S 1807	Push Switch	CSG1126
S 1808	Push Switch	CSG1126

RESISTORS

R 1801	RS1/16S561J
R 1802	RS1/16S561J
R 1803	RS1/16S561J
R 1804	RS1/16S561J
R 1806	RS1/10S201J
R 1807	RS1/10S181J
R 1808	RS1/10S201J
R 1809	RS1/10S181J
R 1810	RS1/10S201J
R 1811	RS1/10S181J
R 1812	RS1/10S201J
R 1813	RS1/10S181J
R 1814	RS1/10S201J
R 1815	RS1/10S181J
R 1816	RS1/10S201J
R 1817	RS1/10S181J
R 1818	RS1/16S223J
R 1819	RS1/16S222J
R 1820	RS1/10S221J
R 1821	RS1/10S221J
R 1822	RS1/10S221J
R 1823	RS1/10S221J
R 1824	RS1/10S221J
R 1825	RS1/10S221J
R 1826	RS1/10S221J
R 1827	RS1/10S221J
R 1828	RS1/10S221J
R 1829	RS1/10S221J
R 1830	RS1/10S221J
R 1831	RS1/10S221J
R 1832	RS1/16S221J
R 1833	RS1/16S221J
R 1834	RS1/10S221J
R 1835	RS1/10S221J
R 1836	RS1/10S331J
R 1837	RS1/10S331J
R 1838	RS1/10S331J
R 1839	RS1/10S331J
R 1840	RS1/16S221J
R 1841	RS1/16S221J

CAPACITORS

C 1801	CKSRYB104K25
C 1802	CKSRYB104K16
C 1821	CKSQYB104K25
C 1822	CKSQYB104K25
C 1823	CKSQYB104K25
C 1824	CKSQYB104K25
C 1825	CKSQYB104K25
C 1826	CKSQYB104K25

F

Unit Number:CWM7806 (AVX-MG2227ZF,MG2327ZF)

Unit Name:Panel PCB Unit

MISCELLANEOUS

Circuit Symbol and No.	Part Name	Part No.
IC 1801	IC	BU2099FV
Q 1801	Transistor	DTC144EU
Q 1802	Transistor	DTC144EU
Q 1804	Transistor	2SB1132
D 1807	Chip LED	LWM673(P)
D 1808	Chip LED	LWM673(P)
D 1809	Chip LED	LWM673(P)
D 1810	Chip LED	LWM673(P)
D 1811	Chip LED	LWM673(P)
D 1812	Chip LED	LWM673(P)
D 1815	Chip LED	LWM673(P)
D 1816	Chip LED	LWM673(P)
D 1817	Diode	DAN202U
D 1820	Diode	RB751V40
D 1831	Chip LED	LWM673(P)
D 1832	Chip LED	LWM673(P)
D 1833	Chip LED	LWM673(P)
D 1834	Chip LED	LWM673(P)
D 1835	Chip LED	LWM673(P)
D 1836	Chip LED	LWM673(P)
D 1837	Chip LED	LWM673(P)
D 1838	Chip LED	LWM673(P)
D 1839	Chip LED	LWM673(P)
S 1801	Push Switch	CSG1126
S 1802	Push Switch	CSG1126
S 1803	Push Switch	CSG1126
S 1804	Push Switch	CSG1126
S 1805	Push Switch	CSG1126
S 1806	Push Switch	CSG1126
S 1807	Push Switch	CSG1126
S 1808	Push Switch	CSG1126

RESISTORS

R 1801	RS1/16S561J
R 1802	RS1/16S561J
R 1803	RS1/16S561J
R 1804	RS1/16S561J
R 1806	RS1/10S391J
R 1807	RS1/10S681J
R 1808	RS1/10S391J
R 1809	RS1/10S681J
R 1810	RS1/10S391J
R 1811	RS1/10S681J
R 1812	RS1/10S391J
R 1813	RS1/10S681J
R 1814	RS1/10S391J
R 1815	RS1/10S681J
R 1816	RS1/10S391J

Circuit Symbol and No.	Part Name	Part No.
R 1817		RS1/10S681J
R 1818		RS1/16S223J
R 1819		RS1/16S222J
R 1820		RS1/10S681J
R 1821		RS1/10S391J
R 1822		RS1/10S681J
R 1823		RS1/10S391J
R 1824		RS1/10S681J
R 1825		RS1/10S391J
R 1826		RS1/10S681J
R 1827		RS1/10S391J
R 1828		RS1/10S681J
R 1829		RS1/10S391J
R 1830		RS1/10S681J
R 1831		RS1/10S391J
R 1832		RS1/16S391J
R 1833		RS1/16S331J
R 1834		RS1/10S102J
R 1835		RS1/10S561J
R 1836		RS1/10S391J
R 1837		RS1/10S681J
R 1838		RS1/10S391J
R 1839		RS1/10S681J
R 1840		RS1/16S391J
R 1841		RS1/16S331J

CAPACITORS

C 1801		CKSRYB104K25
C 1802		CKSRYB104K16
C 1803		CKSRYB104K16
C 1804		CKSQYB104K25
C 1805		CKSRYB104K16
C 1811		CKSQYB104K25
C 1812		CKSQYB104K25
C 1813		CKSQYB104K25
C 1814		CKSQYB104K25
C 1815		CKSQYB104K25
C 1816		CKSQYB104K25
C 1821		CKSQYB104K25
C 1822		CKSQYB104K25
C 1823		CKSQYB104K25
C 1824		CKSQYB104K25
C 1825		CKSQYB104K25
C 1826		CKSQYB104K25

C

Unit Number:CWM7803
Unit Name:Module Unit

MISCELLANEOUS

IC 4001	IC	IR3Y29B
IC 4062	IC	TC7S32FU
IC 4081	IC	NJM2286V
IC 4082	IC	NJM2235V
IC 4101	IC	NJM082BV
IC 4121	IC	M62354GP
IC 4171	IC	NJM062V
IC 4301	IC	TC160G11AF-1146
IC 4303	IC	NJM2107F
IC 4351	IC	TC7W02FU
Q 4101	Transistor	FMY3A

Circuit Symbol and No.	Part Name	Part No.
Q 4102	Transistor	FMY4A
Q 4161	Transistor	2SA1577
Q 4162	Transistor	2SC3518-Z
Q 4163	Transistor	2SC3518-Z
Q 4164	Transistor	DTC114EU
Q 4201	Transistor	2SC4116
Q 4202	Transistor	2SC4116
Q 4203	Transistor	2SA1586
Q 4204	Transistor	2SA1586
Q 4301	Transistor	2SC4097
D 4181	Diode	MA728
D 4182	Diode	MA728
D 4183	Diode	MA728
D 4201	Diode	MA8051(M)
D 4202	Diode	MA8051(M)
D 4203	Diode	MA8051(M)
D 4204	Diode	MA8051(M)
D 4205	Diode	MA8051(M)
D 4206	Diode	MA8051(M)
D 4207	Diode	MA8051(M)
D 4212	Diode	MA8051(M)
D 4213	Diode	MA8051(M)
D 4301	Diode	MA111
D 4302	Diode	1SV231
D 4303	Diode	MA111
L 4001	Inductor	LCTA100J3225
L 4002	Inductor	LCTA100J3225
L 4081	Inductor	LCTA100J3225
L 4101	Inductor	LCTA101J3225
L 4102	Inductor	LCTA101J3225
L 4121	Inductor	LCTB100K2125
L 4122	Inductor	LCTB100K2125
L 4161	Coil	CTH1195
L 4162	Coil	CTH1195
L 4171	Inductor	LCTA101J3225
L 4301	Inductor	LCTA150J3225
L 4302	Coil	CTE1147
L 4303	Inductor	CTF1306
L 4304	Inductor	LCTB100K2125
L 4305	Chip-Inductor	LCTA2R2J3225
L 4306	Inductor	LCTB100K2125
L 4307	Inductor	CTF1306
L 4308	Inductor	CTF1306
L 4310	Inductor-Array	CTF1421
L 4311	Inductor-Array	CTF1421
L 4312	Inductor	CTF1306
L 4313	Inductor	CTF1306
T 4161	Transformer	CTT1096
T 4162	Transformer	CTT1096
VR4002	Semi-fixed 33kΩ(B)	CCP1426
VR4003	Semi-fixed 33kΩ(B)	CCP1426
VR4004	Semi-fixed 33kΩ(B)	CCP1426
VR4005	Semi-fixed 33kΩ(B)	CCP1426
VR4006	Semi-fixed 10kΩ(B)	CCP1423
VR4101	10kΩ(B)	CCP1423
FU4161	Fuse 1.6A	CEK1202
EF4305	Filter	CCG1060

RESISTORS

R 4014	RS1/16S6202D
R 4015	RS1/16S153J
R 4016	RS1/16S273J
R 4017	RS1/16S273J
R 4018	RS1/16S473J

Circuit Symbol and No.	Part Name	Part No.
R 4019		RS1/16S273J
R 4020		RS1/16S513J
R 4022		RS1/16S333J
R 4023		RS1/16S473J
R 4024		RS1/16S333J
R 4025		RS1/16S473J
R 4026		RS1/16S101J
R 4027		RS1/16S101J
R 4028		RS1/16S561J
R 4029		RS1/16S102J
R 4031		RS1/16S393J
R 4032		RS1/16S513J
R 4033		RS1/16S563J
R 4034		RS1/16S473J
R 4036		RS1/16S682J
R 4037		RS1/16S682J
R 4038		RS1/16S682J
R 4039		RS1/16S1802D
R 4040		RS1/16S124J
R 4041		RS1/16S2402D
R 4042		RS1/16S3602D
R 4047		RS1/16S101J
R 4048		RS1/16S101J
R 4049		RS1/16S101J
R 4061		RS1/16S473J
R 4081		RS1/16S105J
R 4082		RS1/16S105J
R 4083		RS1/16S105J
R 4084		RS1/16S104J
R 4085		RS1/16S473J
R 4087		RS1/16S473J
R 4101		RS1/16S303J
R 4102		RS1/16S913J
R 4103		RS1/16S113J
R 4104		RS1/16S473J
R 4105		RS1/16S363J
R 4106		RS1/16S473J
R 4107		RS1/16S101J
R 4108		RS1/16S153J
R 4109		RS1/16S100J
R 4110		RS1/16S153J
R 4111		RS1/16S100J
R 4123	47kΩ	CCN1131
R 4157		RS1/16S0R0J
R 4161		RS1/16S102J
R 4162		RS1/10S222J
R 4163		RS1/4S751J
R 4164		RS1/4S821J
R 4171		RS1/16S103J
R 4172		RS1/16S104J
R 4173		RS1/16S104J
R 4174		RS1/16S104J
R 4175		RS1/16S105J
R 4176		RS1/16S103J
R 4177		RS1/16S103J
R 4178		RS1/16S103J
R 4201		RS1/16S104J
R 4202		RS1/16S104J
R 4205		RS1/16S102J
R 4206		RS1/16S102J
R 4207		RS1/16S472J
R 4208		RS1/16S472J
R 4209		RS1/16S102J

Circuit Symbol and No.	Part Name	Part No.
R 4210		RS1/16S102J
R 4211		RS1/16S472J
R 4222		RS1/16S472J
R 4303		RS1/16S621J
R 4305	680Ω	CCN1119
R 4306	680Ω	CCN1119
R 4308		RS1/16S105J
R 4309		RS1/16S1R0J
R 4310		RS1/16S331J
R 4311		RS1/16S272J
R 4312		RS1/16S332J
R 4314		RS1/16S153J
R 4315		RS1/16S105J
R 4316		RS1/16S103J
R 4317		RS1/16S123J
R 4318		RS1/16S683J
R 4319		RS1/16S472J
R 4320		RS1/16S563J
R 4321		RS1/16S332J
R 4322		RS1/16S221J
R 4325		RS1/16S220J
R 4326		RS1/16S750J
R 4328		RS1/16S0R0J
R 4329		RS1/16S0R0J
R 4332	1kΩ	CCN1120
R 4333	1kΩ	CCN1120
R 4334		RS1/16S0R0J
R 4335		RS1/16S0R0J
R 4351		RS1/16S222J

CAPACITORS

C 4001		CKSRYB103K50
C 4002		CKSRYB104K25
C 4003		CKSRYB103K50
C 4004		CKSRYB473K50
C 4005		CKSRYB104K25
C 4007		CKSRYB103K50
C 4008		CKSRYB103K50
C 4010		CKSRYB105K10
C 4011		CKSRYB105K10
C 4012		CKSQYB105K16
C 4013		CSZSR330M10
C 4014		CKSRYB105K10
C 4015		CKSRYB103K50
C 4016		CKSRYB103K50
C 4017		CKSRYB103K50
C 4018		CKSRYB105K10
C 4019		CKSRYB103K50
C 4020		CKSRYB103K50
C 4023		CKSRYB103K50
C 4024		CKSRYB103K50
C 4026		CKSRYB104K25
C 4027		CKSRYB104K25
C 4028		CKSRYB104K25
C 4029		CKSRYB105K10
C 4030		CSZSR330M10
C 4031		CKSRYB682K50
C 4032		CKSQYB105K16
C 4033		CKSRYB105K10
C 4034		CCSRCH821J50
C 4063		CKSRYB104K25
C 4081		CSZSR330M10
C 4082		CKSRYB104K25

Circuit Symbol and No.	Part Name	Part No.
C 4083		CCSRCH101J50
C 4084		CCSRCH101J50
C 4085		CCSRCH101J50
C 4086		CKSRYB105K10
C 4087		CKSRYB105K10
C 4088		CKSRYB105K10
C 4089		CKSRYB104K25
C 4090		CCSRCH101J50
C 4091		CKSRYB105K10
C 4092		CKSRYB104K25
C 4101		CSZSR330M10
C 4102		CKSRYB103K50
C 4103		CSZSR4R7M25
C 4104		CKSRYB103K50
C 4105		CKSQYB105K16
C 4106		CKSQYB105K16
C 4107		CKSRYB104K25
C 4108		CSZSR4R7M25
C 4121		CSZS100M10
C 4122		CKSRYB104K25
C 4123		CKSRYB104K25
C 4124		CSZS100M10
C 4125		CKSRYB104K25
C 4130		CKSRYB104K25
C 4136		CKSRYB105K10
C 4161		CKSRYB104K25
C 4162		CKSRYB473K50
C 4163		CKSRYB104K25
C 4164	100µF/10V	CCH1332
C 4165		CKSQYB225K10
C 4166		CFHSN104J50
C 4167	22pF	CCG1140
C 4168	22pF	CCG1140
C 4171		CSZSR330M10
C 4172		CKSRYB104K25
C 4173		CFHS473J16
C 4174		CKSRYB105K10
C 4175		CKSRYB472K50
C 4180		CKSRYB102K50
C 4181		CKSRYB102K50
C 4182		CKSRYB102K50
C 4183		CKSRYB102K50
C 4184		CCSRCH101J50
C 4185		CCSRCH101J50
C 4186		CCSRCH101J50
C 4187		CCSRCH101J50
C 4190		CKSRYB102K50
C 4205		CKSRYB102K50
C 4206		CKSRYB102K50
C 4207		CKSRYB102K50
C 4208		CKSRYB102K50
C 4209		CKSRYB102K50
C 4210		CKSRYB102K50
C 4211		CKSRYB102K50
C 4212		CKSRYB102K50
C 4213		CKSRYB102K50
C 4214		CKSRYB102K50
C 4215		CKSRYB102K50
C 4216		CKSRYB102K50
C 4217		CKSRYB102K50
C 4302		CCSRCH561J50
C 4303		CKSRYB104K25
C 4304		CSZSR330M10
C 4305		CKSRYB104K25
C 4306		CKSRYB104K25
C 4307		CCSRCH391J50
C 4308		CCSRCH221J50
C 4309		CKSRYB102K50
C 4310		CCSRCH221J50
C 4311		CKSRYB104K25
C 4312		CKSRYB184K10
C 4313		CKSRYB472K50
C 4314		CKSRYB102K50
C 4315		CKSRYB104K25
C 4316		CKSRYB104K25
C 4317		CKSRYB104K25
C 4318		CKSRYB104K25
C 4321		CKSRYB104K25
C 4323		CKSRYB104K25
C 4324		CSZSR4R7M25
C 4325		CKSRYB103K50
C 4326	100µF/10V	CCH1332
C 4327		CKSRYB103K50
C 4328		CSZSR4R7M25
C 4329		CKSRYB103K50
C 4351		CKSRYB104K25
C 4352		CCSRCH102J50

G

Unit Number:CWM7802 (AVX-MG2027ZF,MG2127ZF)

Unit Name:Keyboard Unit

MISCELLANEOUS

Q 1851	Transistor	DTC144EU
Q 1852	Transistor	DTC144EU
D 1851	LED	CL170PGCD(AB)
D 1852	LED	CL170PGCD(AB)
D 1853	LED	CL170PGCD(AB)
D 1854	LED	CL170PGCD(AB)
D 1855	LED	CL170PGCD(AB)
D 1856	LED	CL170PGCD(AB)
D 1857	LED	CL170PGCD(AB)
D 1858	Diode	DAN202U
D 1859	Diode	RB751V40
D 1860	Diode	RB751V40
VR1851	Switch(Power/Volume)	CSD1064

RESISTORS

R 1851	RS1/10S101J
R 1852	RS1/10S101J
R 1853	RS1/10S101J
R 1854	RS1/10S101J
R 1855	RS1/10S101J
R 1856	RS1/10S101J
R 1857	RS1/10S101J
R 1858	RS1/10S101J
R 1859	RS1/10S101J
R 1860	RS1/10S101J
R 1861	RS1/10S101J
R 1862	RS1/10S101J
R 1863	RS1/10S101J
R 1864	RS1/10S101J

Circuit Symbol and No. Part Name Part No.

G

Unit Number:CWM7807 (AVX-MG2227ZF,MG2327ZF)

Unit Name:Keyboard Unit

MISCELLANEOUS

Q 1851	Transistor	DTC144EU
Q 1852	Transistor	DTC144EU
D 1851	Chip LED	LWM673(P)
D 1852	Chip LED	LWM673(P)
D 1853	Chip LED	LWM673(P)
D 1854	Chip LED	LWM673(P)
D 1855	Chip LED	LWM673(P)
D 1856	Chip LED	LWM673(P)
D 1857	Chip LED	LWM673(P)
D 1858	Diode	DAN202U
D 1859	Diode	RB751V40
D 1860	Diode	RB751V40
VR1851	Switch(Power/Volume)	CSD1064

RESISTORS

R 1851	RS1/10S391J
R 1852	RS1/10S391J
R 1853	RS1/10S101J
R 1854	RS1/10S221J
R 1855	RS1/10S101J
R 1856	RS1/10S221J
R 1857	RS1/10S101J
R 1858	RS1/10S221J
R 1859	RS1/10S101J
R 1860	RS1/10S221J
R 1861	RS1/10S121J
R 1862	RS1/10S151J
R 1863	RS1/10S121J
R 1864	RS1/10S151J

Tuner Connector Unit
Consists of
Tuner PCB
Connector PCB

D E

Unit Number:
Unit Name:Tuner Connector Unit

MISCELLANEOUS

L 1401	Inductor	LCTA4R7J3225
L 1402	Coil	CTB1103
L 2801	Inductor	CTF1379
L 2802	Inductor	CTF1379
L 2803	Inductor	CTF1379
L 2804	Inductor	CTF1379
L 2806	Inductor	CTF1379
L 2807	Inductor	CTF1379
L 2808	Inductor	CTF1379
L 2809	Inductor	CTF1379
L 2810	Inductor	CTF1379
L 2811	Inductor	CTF1379
L 2813	Inductor	CTF1379
L 2816	Inductor	CTF1306
L 2817	Inductor	CTF1306

Circuit Symbol and No. Part Name Part No.

L 2820	Inductor	CTF1379
L 2821	Inductor	CTF1379
L 2822	Inductor	CTF1306
L 2823	Inductor	CTF1306
L 2824	Inductor	CTF1379
L 2825	Inductor	CTF1379
L 2826	Inductor	CTF1379
	FM/AM Tuner Unit	CWE1561
AR1401	Surge Protector	DSP-201M

RESISTORS

R 1401	RS1/16S222J
R 1403	RS1/16S473J
R 1404	RS1/16S473J
R 2801	RS1/16S750J
R 2802	RS1/16S750J
R 2803	RS1/16S750J
R 2804	RS1/16S750J
R 2806	RS1/16S0R0J
R 2809	RS1/16S0R0J

CAPACITORS

C 1401	CKSQYB103K50
C 1402	CKSRYB103K50
C 1403	CKSRYB682K50
C 1404	CKSRYB332K50
C 1405	CCSRCH820J50
C 1406	CKSYB105K16
C 1407	CCSRCH101J50
C 2816	CKSRYB102K50
C 2817	CKSRYB102K50
C 2818	CKSRYB102K50
C 2819	CKSRYB102K50

H

Unit Number:CWX2589
Unit Name:Control Unit(G2F)

MISCELLANEOUS

C 201	IC	UPD63711GC
IC 301	IC	BD7962FM
IC 302	IC	S-818A33AUC-BGN
IC 303	IC	BA05SFP
IC 501	IC	SM5903BFP
IC 503	IC	PD4501B
IC 504	IC	TC74VHCT08AFT
IC 505	IC	TC74VHC541FT
IC 507	IC	MSM51V17400F6TFT
IC 702	IC	PD5705B
Q 101	Transistor	2SB1132
Q 601	Transistor	DTC114EK
Q 602	Transistor	DTA123JK
Q 603	Transistor	DTC314TK
Q 604	Transistor	DTC314TK
Q 702	Transistor	UMD3N
D 101	Diode	1SS355
D 301	Diode	S1G-6904G2P
D 303	Diode	S1G-6904G2P
D 601	Chip Diode	MA151WA
L 201	Inductor	CTF1306

Circuit Symbol and No.	Part Name	Part No.
L 601	Inductor	CTF1295
TH701	Thermistor	CCX1015
X 201	Radiator 16.93MHz	CSS1581
X 701	Radiator 10.00MHz	CSS1428

RESISTORS

R 101	RS1/8S120J
R 102	RS1/8S100J
R 103	RS1/16S222J
R 104	RS1/16S102J
R 105	RS1/16S0R0J
R 201	RS1/16S104J
R 202	RAB4CQ681J
R 203	RS1/16S0R0J
R 204	RS1/16S0R0J
R 205	RS1/16S103J
R 206	RS1/16S393J
R 207	RS1/16S0R0J
R 209	RS1/16S0R0J
R 210	RS1/16S0R0J
R 211	RS1/16S0R0J
R 212	RS1/16S562J
R 213	RS1/16S153J
R 214	RS1/16S123J
R 216	RS1/16S0R0J
R 217	RS1/16S0R0J
R 220	RS1/16S471J
R 221	RS1/16S681J
R 298	RS1/16S0R0J
R 301	RS1/16S103J
R 302	RS1/16S153J
R 303	RS1/16S103J
R 304	RS1/16S103J
R 305	RS1/16S272J
R 306	RS1/16S272J
R 307	RS1/16S182J
R 308	RS1/16S272J
R 309	RS1/16S682J
R 310	RS1/16S822J
R 311	RS1/16S103J
R 312	RS1/16S681J
R 313	RS1/16S103J
R 314	RS1/16S153J
R 315	RS1/16S153J
R 316	RS1/16S153J
R 317	RS1/16S103J
R 318	RS1/16S103J
R 319	RS1/16S102J
R 320	RS1/16S392J
R 322	RS1/16S103J
R 323	RS1/16S103J
R 324	RS1/16S103J
R 325	RS1/16S103J
R 502	RS1/16S102J
R 503	RAB4CQ681J
R 504	RS1/16S331J
R 508	RS1/16S392J
R 511	RS1/16S0R0J
R 512	RS1/16S333J
R 513	RS1/16S473J
R 516	RS1/16S331J
R 601	RS1/16S102J
R 602	RS1/16S102J
R 603	RS1/16S223J

Circuit Symbol and No.	Part Name	Part No.

RESISTORS

R 604	RS1/16S223J
R 605	RS1/16S102J
R 606	RS1/16S681J
R 607	RS1/16S681J
R 608	RS1/16S102J
R 609	RAB4CQ681J
R 701	RAB4CQ104J
R 702	RS1/16S222J
R 703	RS1/16S681J
R 704	RAB4CQ222J
R 705	RAB4CQ681J
R 706	RS1/16S473J
R 707	RS1/16S473J
R 708	RS1/16S222J
R 709	RS1/16S222J
R 711	RAB4CQ104J
R 712	RS1/16S473J
R 713	RS1/16S681J
R 714	RS1/16S473J
R 715	RAB4CQ222J
R 716	RS1/16S103J
R 718	RS1/16S473J
R 719	RS1/16S104J
R 720	RS1/16S103J
R 724	RS1/16S104J
R 727	RS1/16S0R0J
R 734	RS1/16S104J
R 736	RS1/16S681J
R 739	RS1/16S473J
R 741	RS1/16S104J
R 742	RS1/16S222J
R 743	RS1/16S681J
R 758	RS1/16S822J
R 759	RS1/16S103J
R 760	RS1/16S433J
R 767	RS1/16S154J
R 775	RAB4CQ681J

CAPACITORS

C 101	CKSRYB103K25
C 102	CKSRYB104K25
C 103	CEVL101M10
C 104	CEVL470M6R3
C 105	CKSRYB224K16
C 106	CKSRYB224K16
C 107	CKSRYB224K16
C 201	CKSRYB104K25
C 202	CEVL220M16
C 203	CKSRYB473K25
C 204	CKSRYB182K50
C 205	CKSRYB104K25
C 206	CKSRYB152K50
C 207	CKSRYB224K16
C 208	CCSRCH180J50
C 209	CCSRCK2R0C50
C 210	CCSRCH181J50
C 211	CCSRCH510J50
C 212	CKSRYB682K50
C 213	CKSRYB104K25
C 214	CKSRYB104K25
C 215	CKSRYB103K25

Circuit Symbol and No.	Part Name	Part No.
C 216		CKSRYB104K25
C 217		CKSRYB104K25
C 218		CKSRYB104K25
C 219		CKSRYB104K25
C 220		CKSRYB104K25
C 221		CEVL470M6R3
C 222		CKSRYB104K25
C 223		CKSRYB102K50
C 224		CKSRYB104K25
C 225		CKSRYB103K25
C 226		CCSRCH510J50
C 301		CEVL101M10
C 302		CKSRYB224K16
C 303		CKSRYB224K16
C 304	10µF/10V	CCH1349
C 305		CKSRYB224K16
C 306	10µF/10V	CCH1349
C 307		CKSRYB224K16
C 309		CKSYB475K16
C 501		CKSRYB102K50
C 502		CKSRYB104K25
C 503		CKSRYB104K25
C 504		CKSRYB104K25
C 505		CKSRYB104K25
C 506		CKSRYB104K25
C 508		CKSRYB104K25
C 509		CKSRYB104K25
C 601		CEVL220M6R3
C 602		CEVL220M6R3
C 701		CKSRYB104K25
C 702		CKSRYB104K25
C 703		CKSRYB103K25
C 704		CKSRYB103K25
C 705		CKSRYB104K25
C 706		CKSRYB104K25
C 707		CKSRYB103K25
C 708		CKSRYB473K25

J

Unit Number:
Unit Name:PCB Unit(Load)

Q 21	Photo-transistor	CPT231SCTU
Q 22	Photo-transistor	CPT231SCTU
L 21	Inductor	LCYBR15J1608
L 22	Inductor	LCYBR15J1608
S 21	Spring Switch(LOAD1)	CSN1051
S 22	Spring Switch(LOAD2)	CSN1052

I

Unit Number:CWX2614
Unit Name:PCB Unit(LED)

D 31	Chip LED	CL205IRXTU
D 32	Chip LED	CL205IRXTU
S 31	Spring Switch(CAMLOAD)	CSN1052
S 32	Spring Switch(CAMEOK)	CSN1052
R 31		RS1/16S0R0J

Circuit Symbol and No.	Part Name	Part No.

L

Unit Number:CWX2611
Unit Name:PCB Unit

L 1	Inductor	CTF1389
S 41	Spring Switch(LOAD3)	CSN1051

K

Unit Number:CWX2613
Unit Name:PCB Unit(Side)

MISCELLANEOUS

S 11	Spring Switch(CAMCLMP)	CSN1052
VR11	Semi-fixed 1kΩ(B)	CCP1338

RESISTORS

R 11		RS1/16S562J
R 12		RS1/16S562J
R 13		RS1/10S391J
R 14		RS1/10S391J
R 15		RS1/16S0R0J
R 16		RS1/16S0R0J

CAPACITORS

C 12		CKSRYB104K25

M

Unit Number:
Unit Name:PCB Unit(M2 Unit)

IC 1	IC	BA6849FS
S 1	Switch(HOME)	CSN1057
S 2	Switch(CLAMP)	CSN1057

RESISTORS

R 1		RS1/16S221J
R 2		RS1/16S221J
R 3		RS1/16S4R7J
R 4		RS1/16S1R0J

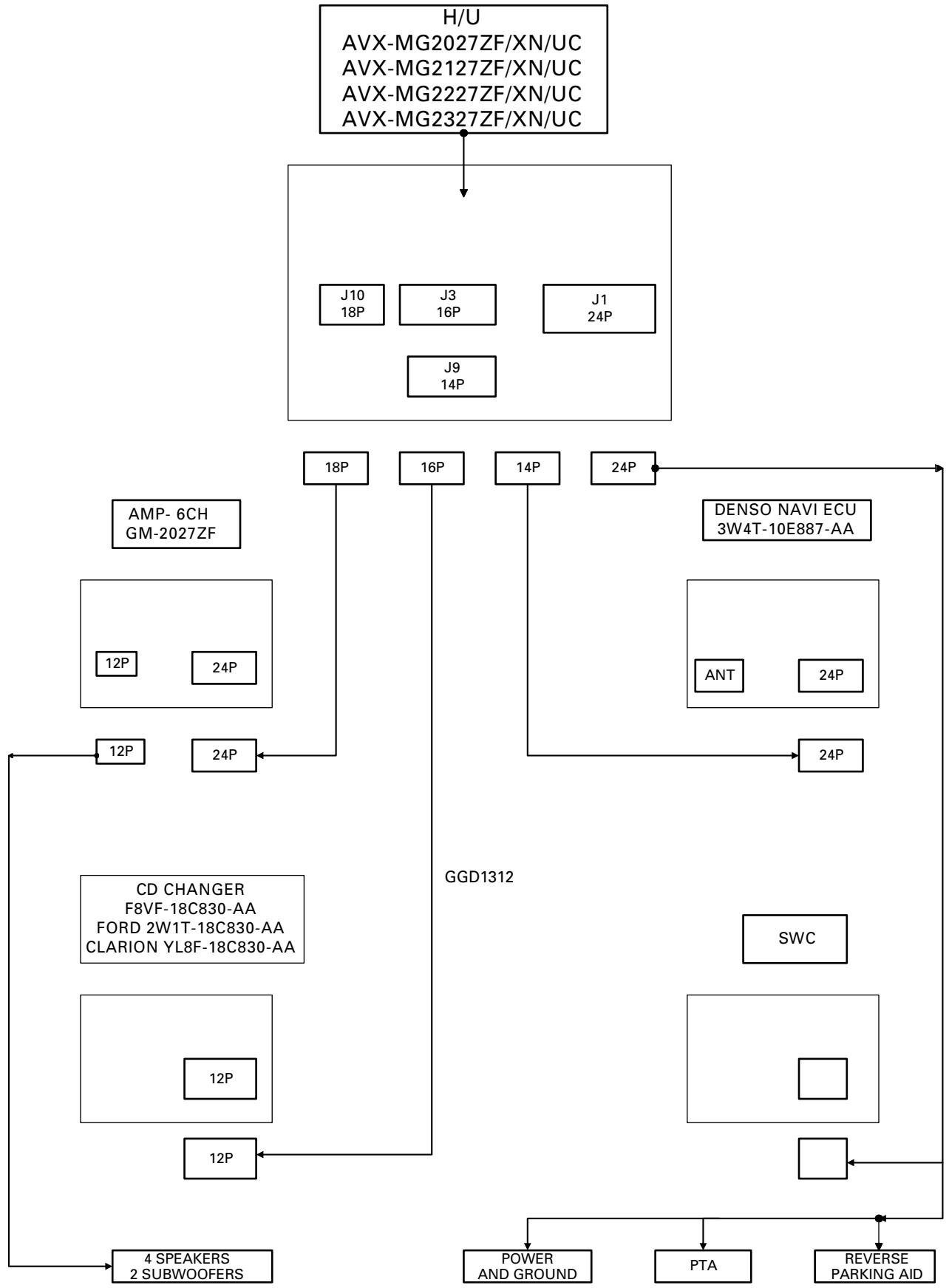
CAPACITORS

C 1		CKSRYB104K16

Miscellaneous Parts List

M 1	Motor Unit(-A)(CAMGEAR)	CXB7527
M 2	Motor Unit(-B)(ELEVATION)	CXB7526
M 3	Motor Unit(-A)(CRG)	CXB7517
VR1	Variable Resistor 10kΩ	CCW1023
	PU Unit(Service)(PX1)	CXX1568
M 901	Motor Unit(FLAP)	CXC1191

6. ADJUSTMENT
6.1 CONNECTION DIAGRAM



6.2 CD ADJUSTMENT

1) Precautions on Adjustment

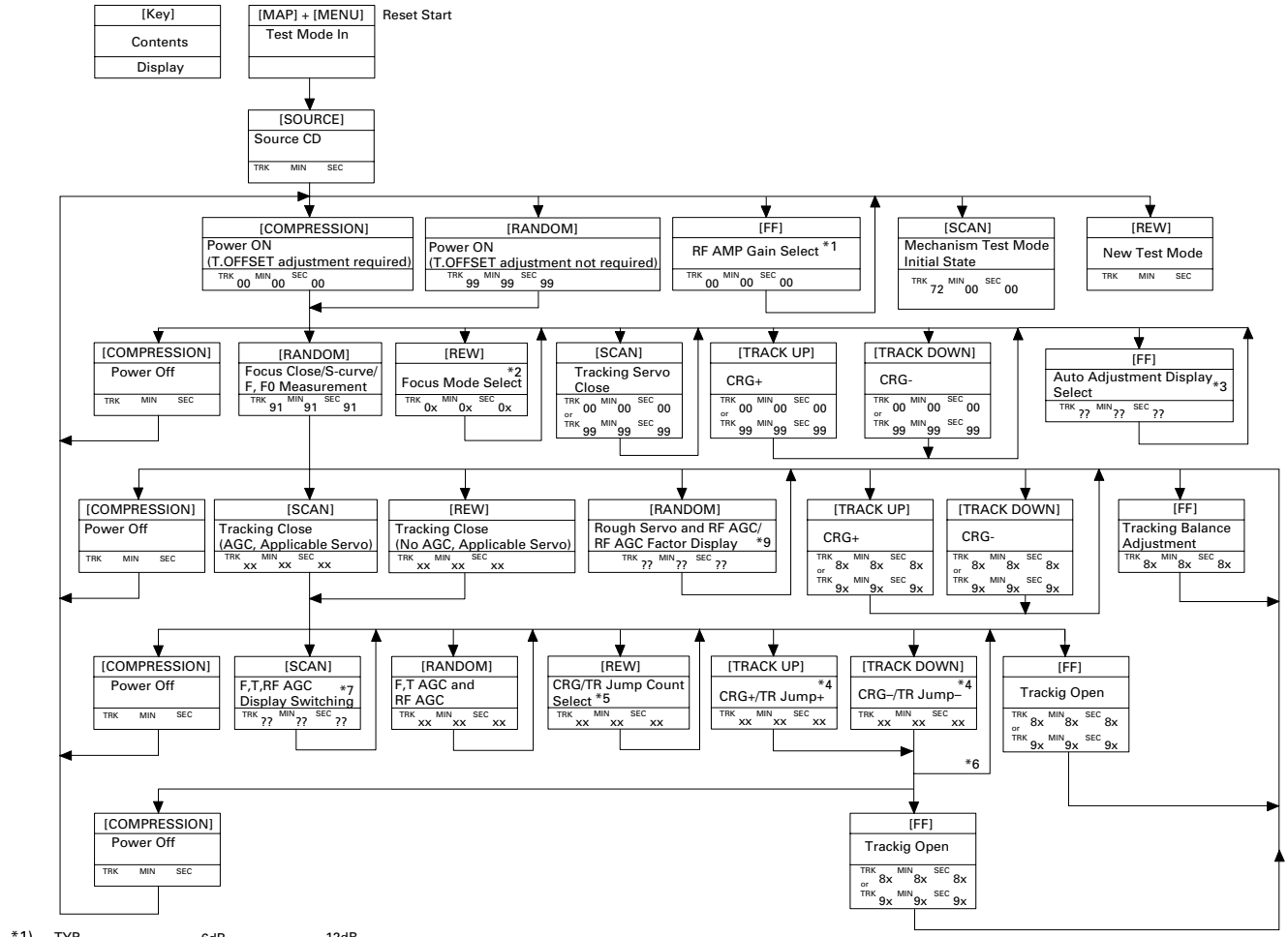
- **Before you perform test mode of the unit, be sure to connect Navigation ECU to the unit.**
- The unit employs a single voltage (+5V) for the regulator, thus the reference potential of the signal is REFO (approximately 2.5V) rather than GND.
  Inadvertent contact of REFO and GND during adjustment can result not only in disabling normal potential measurement but also in exposing the pickup to strong impacts due to malfunctioning of the servo. Therefore, you are requested to observe the following precautions.
- Make sure that the negative probe of the measuring instrument is not connected to REFO or GND. Special care must be exercised so that the channel 1 negative probe may not be connected to the oscilloscope and the channel 2 negative probe to GND. Since the frame of the measuring instrument is usually at the same potential as the negative probe, the frame of the measuring instrument must be changed to floating status.
  When REFO is inadvertently connected to GND, you must immediately turn off the regulator or power supply.
- The regulator must be turned off before mounting or dismounting filters or wiring materials.
- You should not start adjustment or measurement immediately after the regulator is turned on. It is recommended to run the player for approximately one minute so that it may stabilize.
- When the test mode is turned on, various protective functions from the software become unavailable. Thus, you must make sure that undesirable electric or mechanical shocks are not be given to the system.
- This model employs a photo-transistor for detecting discs at their loading or ejection. Thus, if its outer case is removed during repair work and internal parts are exposed to light of strong intensity, malfunctions including the following can result:
  * The eject button becomes inoperable during play. Pressing the eject button does not eject a disc and play is continued.
  * Loading becomes unavailable.

  If a malfunction is recognized, appropriate remedial actions must be taken. Such actions include changing the light source position, changing the unit position and applying a cover to the photo-transistor.
- When you press the EJECT key to eject a disc, you must not touch any other key until the ejection is complete.
- If you press the TRACK UP or TRACK DOWN for the focus search in the test mode, you must turn the power off immediately. (Otherwise, the lens will be forced to stick to the top or bottom, potentially resulting in the burning of the actuator.)

2) Description of the Test Mode

- Turning on the Test Mode
  Press the [MAP] and [MENU] keys simultaneously to turn on the ACC and the backup.
- Ending the Test Mode
  Apply the reset (the reset will be applied two minutes after the power is turned from off).
- Operation of TR JUMPs (except 100TR) continues after your finger has left the key. CRG, MOVE and 100TR JUMP are forced to the tracking close mode as soon as the key is released.
- Turning the power on or off resets the JUMP MODE to the Single TR.

● Flow Chart



*1) TYP → -6dB → -12dB

*2) Focus Close → S.Curve Check → LD Off

*3) F.Offset Display →RF Offset Display→ T.Bal Display → Rough Servo.

(F.Cancel value
= (Upper 8 bits of the setting (7F[H] to 80[H] + 128)/4
= 63[D] to 32[D] to 00[D]).

*4) Single TR /4TR / 10TR / 32TR / 100TR

*5) Single TR → 4 TR → 10 TR → 32 TR → 100 TR → CRG Move
9X(8X):91(81) 92(82) 93(83) 94(84) 95(85) 96(86)

*6) Only for the CRG Move and 100TR modes

*7) Track No. / Min / Sec → F.AGC Gain →T.AGC Gain →RF AGC Gain

(F.T. AGC Gain = (Current value/Initial value) x 20)

[Key]	Operation	
	Test Mode	New Test Mode
[COMPRESSION]	Power ON/OFF	Error occurrence time/ Cause display switching
[TRACK UP]	CRG+/TR Jump+ (Toward outer perimeter)	TRACK UP
[TRACK DOWN]	CRG-/TR Jump- (Toward inner perimeter)	TRACK DOWN
[SCAN]	Tracking close and AGC and Applicable servo / AGC , AGC display switching	SCAN
[FF]	RF gain select / Offset adjustment display/ Tracking balance adjustment / Tracking open	FF
[RANDOM]	Focus Close, S.Curve / Rough Servo/ RF AGC / F,T, RF AGC	RANDOM
[REW]	Focus mode select / Tracking close / CRG·TR jump select	REW
[LOAD]	DISC load	DISC load
[EJECT]	DISC eject	DISC eject

Note) Before you perform test mode of the unit, be sure to connect Navigation ECU to the unit.

*8) CRG motor voltage : 2 [V]

*9)The first press displays the RF AGC coefficient. The second one or after performs the rough servo and RF AGC adjustments, and then displays the RF AGC coefficient.

- In all TR Jump modes except for 100TR, track jump operation continues even after the key is released.
  In the CRG Move and 100TR Jump modes, the tracking servo loop closes at the same time when the key is released.
- When the power is turned off and on, the jump mode, the RF AMP gain setting, and the auto adjustment values are reset to the Single TR (91),0dB, and the factory setting respectively.

Note: Sound is unavailable even after the tracking has been closed (this trouble results when the IC for the STS is not controlled in the test mode).
Note: When you pressed the [TRACK UP] or [TRACK DOWN] key during the Focus Search, you must turn the power off immediately (otherwise, the lens can stick resulting in actuator damages).

6.3 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

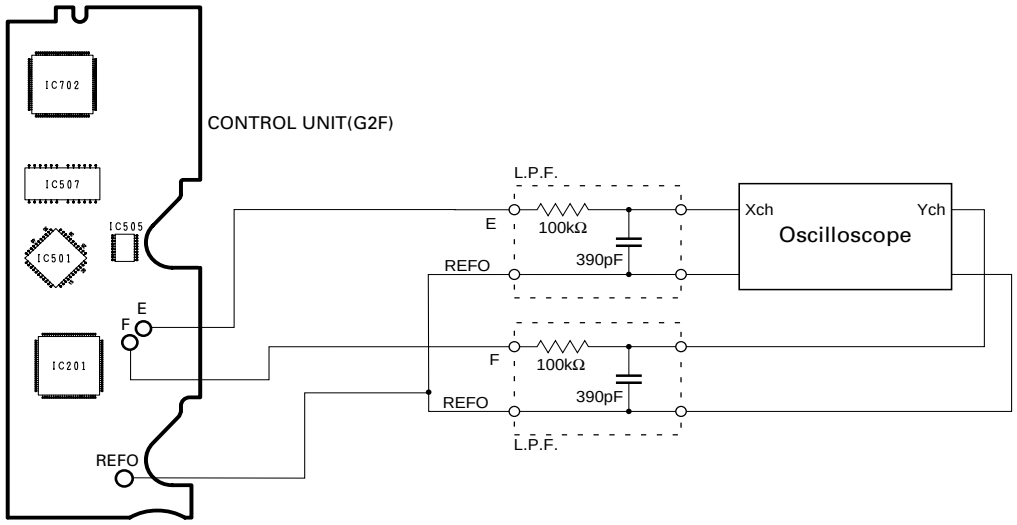
• **Note :**
The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• **Purpose :**
To check that the grating is within an acceptable range when the PU unit is changed.

• **Symptoms of Mal-adjustment :**
If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

• **Method :**

• Measuring Equipment	• Oscilloscope, Two L.P.F.
• Measuring Points	• E, F, REFO
• Disc	• ABEX TCD-784
• Mode	• TEST MODE



• **Checking Procedure**
1. In test mode, load the disc and switch the 5V regulator on.
2. Using the **TRACK UP** and **TRACK DOWN** buttons, move the PU unit to the innermost track.
3. Press key **RANDOM** to close focus, the display should read "91". Press key **FF** to implement the tracking balance adjustment the display should now read "81". Press key **RANDOM** 4 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

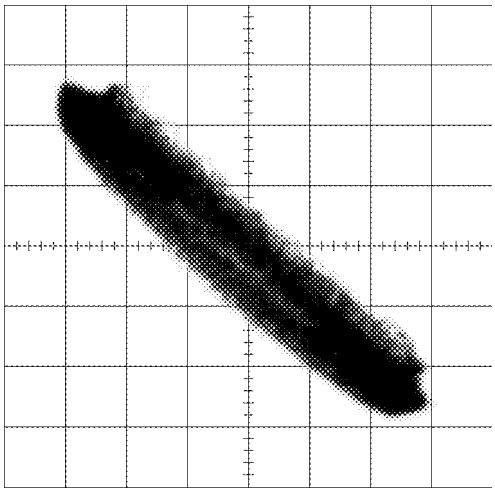
• **Note**
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• **Hint**
Reloading the disc changes the clamp position and may decrease the "wobble".

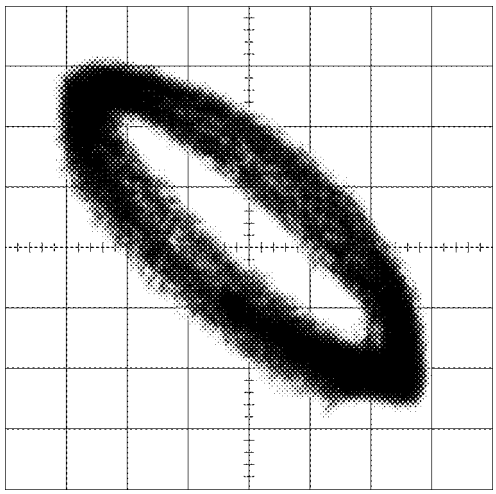
Grating waveform

Ech → Xch 20mV/div, AC
Fch → Ych 20mV/div, AC

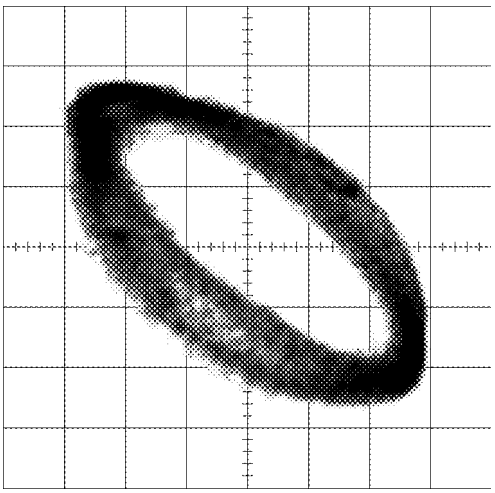
0°



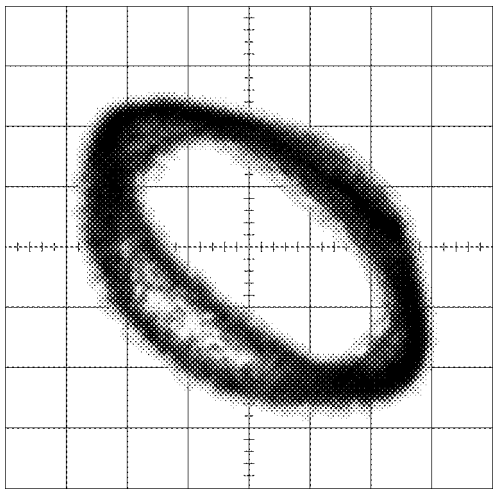
30°



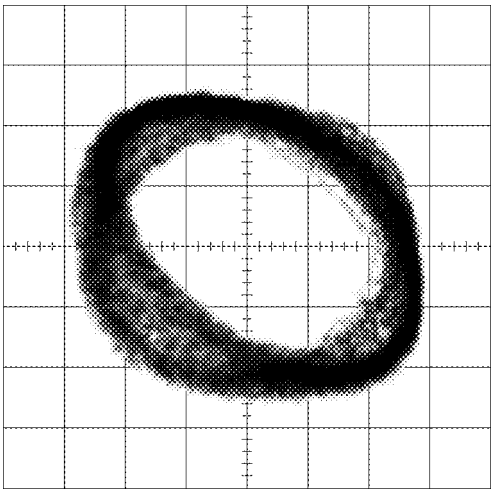
45°



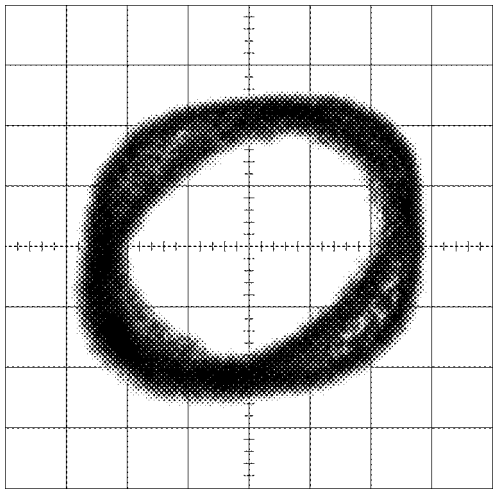
60°



75°

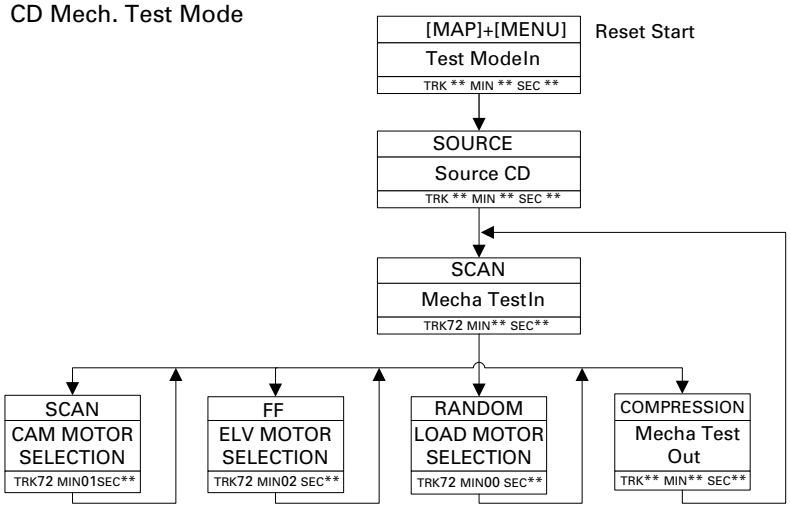


90°



6.4 TEST MODE

CD Mech. Test Mode

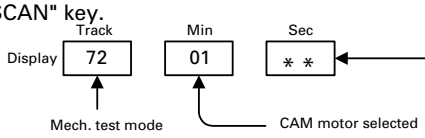


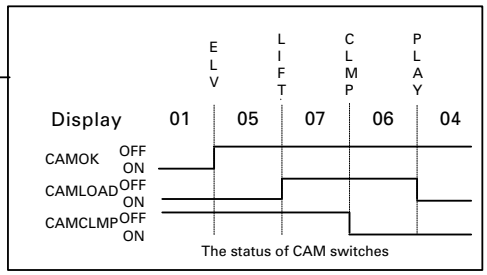
Note:
The mechanical operations such as loading, ejection and disc change are controlled by the highly sophisticated method.
Before entering this test mode, fully grasp how the mechanism is controlled, by referring to the mechanism operation flowchart.

[Key operations]
Select the motor to be operated by using one of the following three keys: SCAN, FF, and RANDOM.
To move the selected motor, use the "TRACK UP / TRACK DOWN" key.
While the key is being pressed, the motor will continue to move.

1) To select the CAM motor, press the "SCAN" key.

"TRACK UP" key: to move in the CAM PLAY direction
"TRACK DOWN" key: to move in the CAM ELV direction

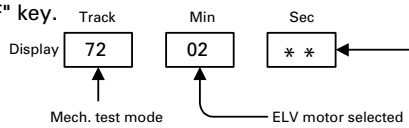


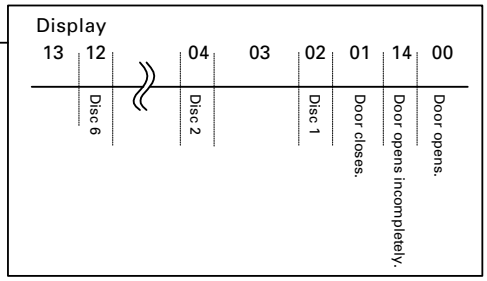


Notes:
To protect the mechanism from unexpected damages, keep the following points in mind:
1. Before moving the CAM motor from the ELV position to the LIFT position, be sure to move the ELV motor to select the disc 1 to 6.
2. Before moving the CAM motor from the CLMP position to the LIFT position, be sure to select the SPDL claws to release the disc clamp.

2) To select the ELV motor, press the "FF" key.

"TRACK UP" key: to move in the ELV UP direction
"TRACK DOWN" key: to move in the ELV DOWN direction

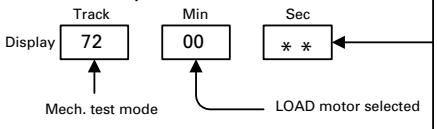


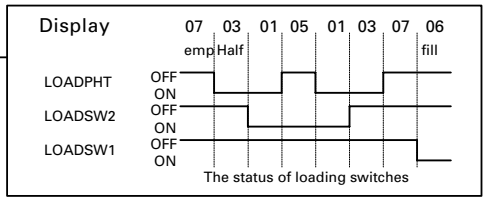


Note:
Before moving the ELV motor, be sure to move the CAM motor to the ELV position or LIFT position first. If not, the mechanism may be damaged.
When the CAM motor is set to the ELV position, do not move the ELV motor from the door open position to the door closed position.

3) To select the LOAD motor, press the "RANDOM" key.

"TRACK UP" key: to load a disc.
"TRACK DOWN" key: to eject the loaded disc.





6.5 ERROR CODE LIST

● Electricity

	Class	Contents	Description and cause
10	Electricity	Carriage home NG	CRG cannot move to the inner tracks. CRG cannot move from the inner tracks. →HOME SW defective, CRG movement failure
11	Electricity	Focus search NG	No focus →Disc loaded upside down, dirty discs loaded or excessive vibration applied
12	Electricity	Spindle lock NG Subcode NG RF AMP NG	No spindle lock. Wrong subcodes (unreadable) →Spindle failure, scratched or dirty discs loaded, excessive vibration applied Unwritten CD-R disc loaded. Disc loaded upside down. The optimum RF AMP gain cannot be obtained. →CD signal abnormal
17	Electricity	Setup NG	AGC protection does not function. Focus is easily unlocked. →Scratched or dirty discs loaded, excessive vibration applied
30	Electricity	Search time-out	Cannot reach the target address. →Carriage or tracking failure, scratched discs loaded.
	The third digit	The claw SW value when an error occurred: Bit 0: HOME, Bit 1: CLMP	
	The fourth digit	1: The number of the FG pulses is not within the allowable range. 0: The number of the FG pulses was satisfied with the spec at least once.	

● System

Upper two digits	Class	Contents	Description and cause
A0	System	Power NG	Power supply voltage (VD) abnormal →SW transistor failure. Abnormal power supply (connector failure)
A1	System	EREF NG	The elevation-position-detection reference voltage is deviated.
	The third and fourth digits	The motor control terminal output when an error occurred. (Bit 0 - 7) = (LO1, LO2, ELV1, ELV2, CG1, CG2, ELVCONT, LODCONT)	

● Mechanism 1: [2* **] Waiting for disc ejection.

Upper two digits	Class	Contents	Description and cause
20	Mechanism	Waiting for disc ejection.	A loaded disc is not taken out even when 30 seconds passed after forcible eject operation. Foreign substances, sensors failure, driving system failure
21	Mechanism	Waiting for disc ejection.	
22	Mechanism	Waiting for disc ejection.	
23	Mechanism	Waiting for disc ejection.	
24	Mechanism	Waiting for disc ejection.	
25	Mechanism	Waiting for disc ejection.	
26	Mechanism	Waiting for disc ejection.	
	The third digit	---	
	The fourth digit	The 3-bit value for the LOAD SW with forcible eject error: (Bit 0, Bit 1, Bit2) = (LOADSW2, LOADSW1, LOADPHT)	

● Mechanism 2: [5* **], [6* **], [7* **], [8* **] CAM operation NG

Upper two digits	Class	Contents	Description and cause
51	Mechanism	CAM Err	During TRAYUP, CAM motor FWD time-out error Time-out at the CAMCLMP ON waiting mode
52	Mechanism	CAM Err	During TRAYUP, CAM motor REV time-out error Time-out at the CAMCLMP OFF waiting mode
5A	Mechanism	CAM Err	During TRAYDN, CAM motor FWD time-out error Time-out at the CAMCLMP ON waiting mode
5B	Mechanism	CAM Err	During TRAYDN, CAM motor REV time-out error Time-out at the CAMLOAD OFF waiting mode
5E	Mechanism	CAM Err	During TRAYDN, CAM motor FWD time-out error Time-out at the CAMLOAD ON waiting mode
61	Mechanism	CAM Err	During CRGOUT, CAM motor FWD time-out error Time-out at the CAMLOAD OFF waiting mode
62	Mechanism	CAM Err	During CRGOUT, CAM motor REV time-out error Time-out at the CAMCLMP OFF waiting mode
64	Mechanism	CAM Err	During CRGOUT, CAMLOAD turns ON at the CAMCLMP OFF mode (mechanical stuck)
66	Mechanism	CAM Err	During CRGOUT, CAM motor REV time-out error Time-out at the CAMLOAD ON waiting mode
6A	Mechanism	CAM Err	During CRGIN, CAM motor FWD time-out error Time-out at the CAMCLMP ON waiting mode
6B	Mechanism	CAM Err	During CRGIN, CAM motor REV time-out error Time-out at the CAMCLMP OFF waiting mode
71	Mechanism	CAM Err	During ELVIN, CAM motor FWD time-out error Time-out at the CAMEOK OFF waiting mode
72	Mechanism	CAM Err	During ELVIN, CAM motor REV time-out error Time-out at the CAMEOK ON waiting mode

Upper two digits	Class	Contents	Description and cause
7A	Mechanism	CAM Err	During ELVOUT, CAM motor FWD time-out error Time-out at the CAMLOAD OFF waiting mode
7B	Mechanism	CAM Err	During ELVOUT, CAM motor REV time-out error Time-out at the CAMCLMP OFF waiting mode
7D	Mechanism	CAM Err	During ELVOUT, CAMLOAD turns ON at the CAMCLMP OFF mode (mechanical stuck).
7F	Mechanism	CAM Err	During ELVOUT, CAM motor REV time-out error Time-out at the CAMLOAD ON waiting mode
81	Mechanism	CAM Err	During EIN_EXP, CAM motor FWD time-out error Time-out at the CAMEOK OFF waiting mode
82	Mechanism	CAM Err	During EIN_EXP, CAM motor REV time-out error Time-out at the CAMEOK ON waiting mode
8A	Mechanism	CAM Err	During CIN_EXP, CAM motor FWD time-out error Time-out at the CAMCLMP ON waiting mode
8B	Mechanism	CAM Err	During CIN_EXP, CAM motor REV time-out error Time-out at the CAMCLMP OFF waiting mode
	The third digit	---	
	The fourth digit	CAMSW 3-bit value before retry (with the first error)(Bit0, Bit1, Bit2) = (CAMCLMP, CAMLOAD, CAMEOK)	

● Mechanism 3: [91 **], [92 **], [93 **], [94 **], [96 **] Initializing errors
For [90 **], refer to (9) Mechanism 7.

Upper two digits	Class	Contents	Description and cause
91	Mechanism	CAMRST Err	At the start of the initializing operation, the CAM motor is not positioned correctly, but does not return to the correct position.
92	Mechanism	CAMRST Err	
93	Mechanism	CAMRST Err	
94	Mechanism	CAMRST Err	During initializing, spindle claws do not close.
96	Mechanism	CAMRST Err	At the start of the initializing operation, the CAM motor is not positioned correctly, but does not return to the correct position.
	The third digit	---	
	The fourth digit	---	

● Mechanism 4: [9A **], [9B **], [9C **], [9D **] Claw operation NG

Upper two digits	Class	Contents	Description and cause
9A	Mechanism	Claw Err	During spindle claw closing operation (DSKFREE), the claws do not close.
9B	Mechanism	Claw Err	During spindle claw opening operation (DSKLOCK), the claws do not open.
9C	Mechanism	Claw Err	During spindle claw closing operation for releasing the shipping mode (CLWCLSE), the claws do not close.
9D	Mechanism	Claw Err	During spindle claw opening operation for setting the shipping mode (CLWOPEN), the claws do not open.
	The third digit	CAMSW 3-bit value with an claw operation error(Bit 0, Bit 1, Bit 2) = (CAMCLMP, CAMLOAD, CAMEOK)	
	The fourth digit	Claw SW value before the claw operation starts Bit 0: HOME, Bit 1: CLMP	

● Mechanism 5: [B* **] Disc change (tray selection) NG Upper 2 digits

Upper two digits	Class	Contents	Description and cause
B1	Mechanism	DISCSEL Err	The elevation does not move in the UP direction or stops.
B2	Mechanism	DISCSEL Err	The elevation does not move in the DOWN direction or stops.
B3	Mechanism	DISCSEL Err	The carriage cannot reach the target tray.
B6	Mechanism	DISCSEL Err	The carriage mechanism passes the target tray.
	The third digit	Target Disc No.	
	The fourth digit	EVL Err stop position before retry	

● Mechanism 6:
[C* **] The tray does not move up to the eject/insert position (elevation movement including shutter opening).
[D* **] The tray does not move down from the eject/insert position to the home position (elevation movement including shutter closing).

Upper two digits	Class	Contents	Description and cause
C1	Mechanism	LIFT Err	During LIFTUP, the shutter does not open completely.
C2	Mechanism	LIFT Err	During LIFTUP, abnormal conditions occurred.
C3	Mechanism	LIFT Err	
C6	Mechanism	LIFT Err	
D1	Mechanism	LIFT Err	During LIFTDN, abnormal conditions occurred.
D2	Mechanism	LIFT Err	The elevation does not move in the DOWN direction or stops.
D3	Mechanism	LIFT Err	During LIFTDN, the carriage mechanism cannot reach the target tray.
D4	Mechanism	LIFT Err	During LIFTDN, foreign substances were detected around the slot.
D6	Mechanism	LIFT Err	During LIFTDN, the carriage mechanism passes the target tray.
D7	Mechanism	LIFT Err	During LIFTDN, foreign substances were detected around the slot.
	The third digit	The current Disc No.	
	The fourth digit	EVL err stop position before retry	

● Mechanism 7: [E (F)* **]

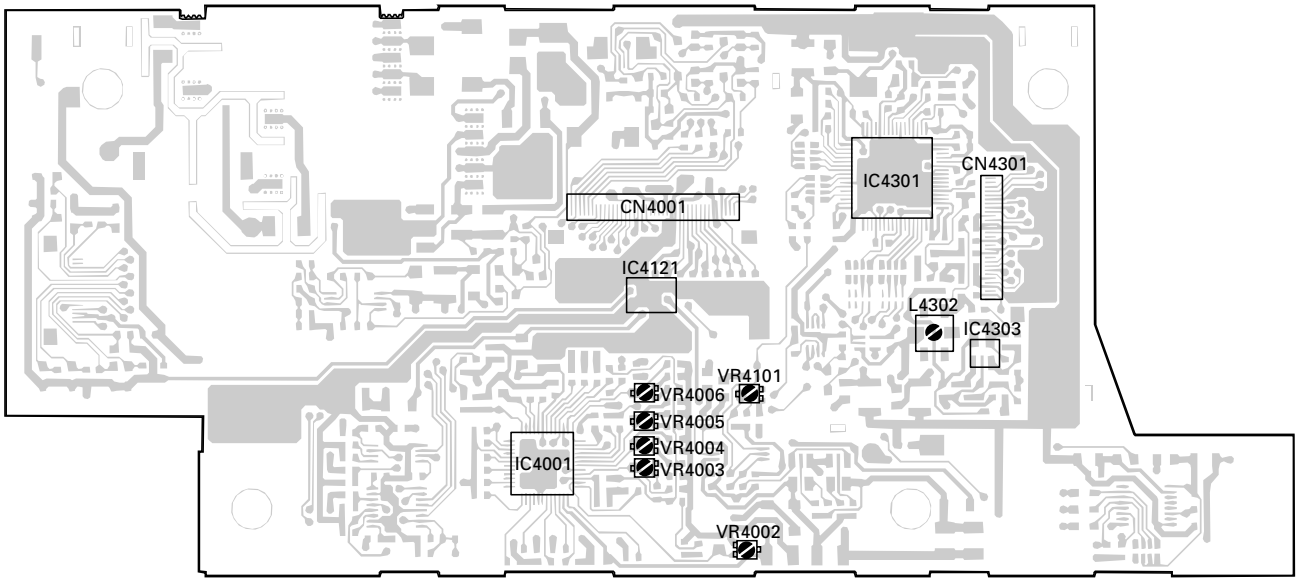
Upper two digits	Class	Contents	Description and cause
90	Mechanism	LOAD/EJECT Err	After forcible eject, the shutter does not open or close even with retry.
E0	Mechanism	LOAD/EJECT Err	
E2	Mechanism	LOAD/EJECT Err	
E6	Mechanism	LOAD/EJECT Err	
EB	Mechanism	LOAD/EJECT Err	
ED	Mechanism	LOAD/EJECT Err	
F0	Mechanism	LOAD/EJECT Err	
F1	Mechanism	LOAD/EJECT Err	
F2	Mechanism	LOAD/EJECT Err	
F3	Mechanism	LOAD/EJECT Err	
F4	Mechanism	LOAD/EJECT Err	
F5	Mechanism	LOAD/EJECT Err	
F6	Mechanism	LOAD/EJECT Err	
F7	Mechanism	LOAD/EJECT Err	
FB	Mechanism	LOAD/EJECT Err	
	The third digit	---	
	The fourth digit	---	

Code	Meaning
0	Door opens.
1	Door opens incompletely.
E	Door closes.
2	Disc 1: within OK range
3	
4	Disc 2: within OK range
5	
6	Disc 3: within OK range
7	
8	Disc 4: within OK range
9	
A	Disc 5: within OK range
B	
C	Disc 6: within OK range
D	

6.6 MODULE UNIT ADJUSTMENT

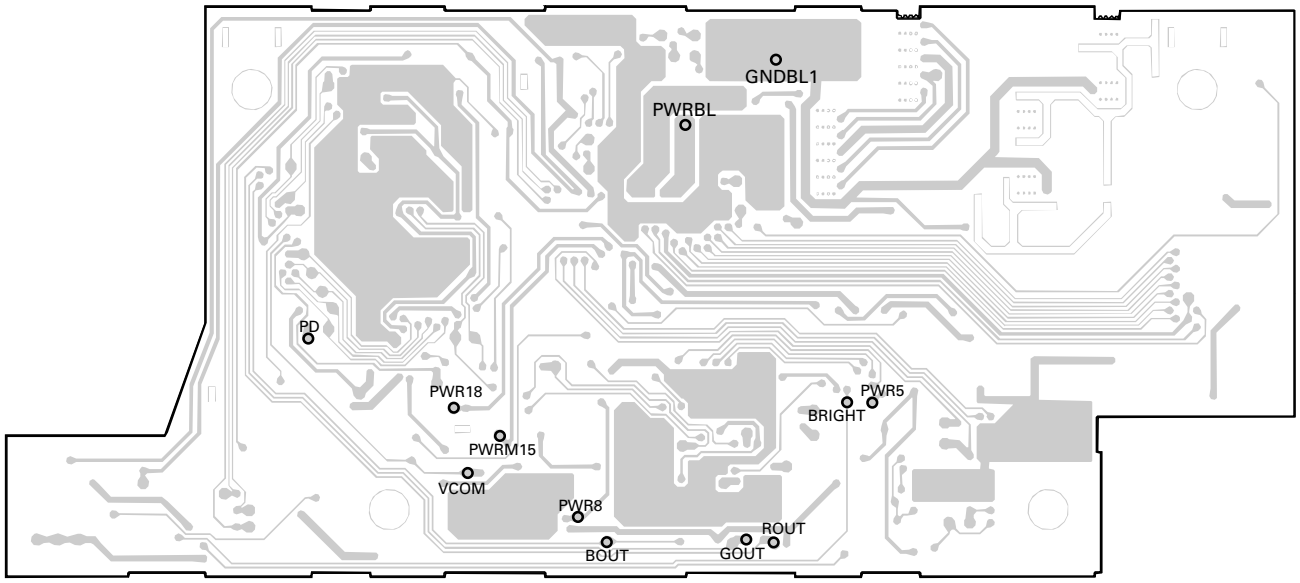
● **Adjustment point**

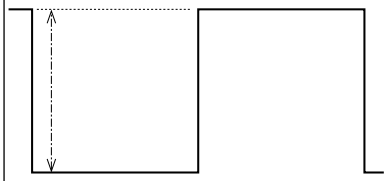
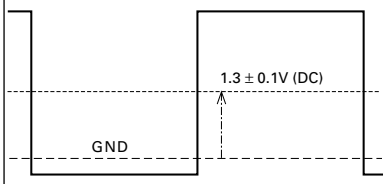
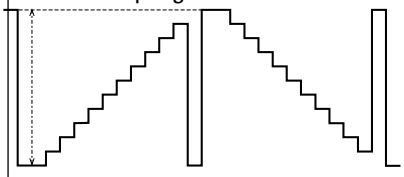
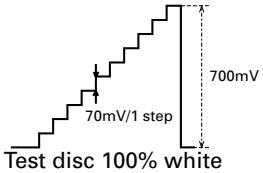
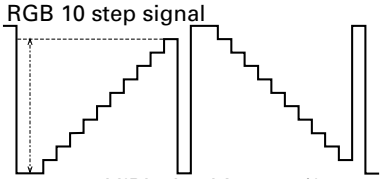
MODULE UNIT (SIDE A)

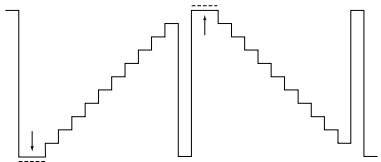
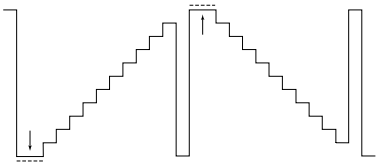
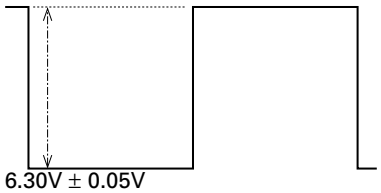


● **Test point**

MODULE UNIT (SIDE B)



No.	Adjustment item	VSW	Measurement Point	Adjustment Point	Adjustment Content	Note
1	5V supply		TP PWR5 (CN4001 pin 27)		5.0V±0.1V DC	
2	8V supply		TP PWR8 (CN4001 pin 28)		7.5V±0.3V DC	
3	18V supply		TP PWR18 (CN4001 pin 29)		18.5V±0.7V DC	
4	-15V supply		TP PWRM15 (CN4001 pin 30)		-15.5V±0.7V DC	
5	PWRBL supply		TP PWRBL (CN4001 pin 21, 22)		8.3V±0.2V DC	Measure the potential difference between TP and GNDBL1
6	BRIGHT setting	H	TP BRIGHT (IC4121 pin 6)	IC4121 A02	65h Setting(1.99V)	User adjustment "CONTRAST=0" is also possible
7	BRIGHT confirmation	H	TP BRIGHT (IC4121 pin 6)		1.99V±0.05V DC	
8	Free-run PD voltage confirmation		TP PD (IC4303 pin 4)		No synchronizing signal input Conform the voltage of TP PD	
9	PD voltage adjustment		TP PD (IC4303 pin 4)	L4302	Synchronizing signal input (The signal for checker) External video input or TVRF input Voltage checked in No.8 ± 0.01V DC	
10	COM amp rough adjustment	H	TP VCOM (CN4301 pin 17)	VR4006	 6.30V±0.2V	
11	Vcom_DC rough adjustment	H	TP VCOM (CN4301 pin 17)	VR4101		Measure DC value of Vcom center voltage
12	RGB amp	H	TP GOUT (CN4301 pin 27)	VR4003	RGB 10 step signal  4.00±0.05V(Black-black of next line)	RGB 10 step signal  Test disc 100% white Diagnostic mode 100% white is also possible
13	Gamma 2	H	TP GOUT (CN4301 pin 27)	VR4002	RGB 10 step signal  3.40±0.05V(Black-white 100%)	

No.	Adjustment item	VSW	Measurement Point	Adjustment Point	Adjustment Content	Note
14	B sub brightness adjustment	H	TP GOUT (CN4301 pin 27) and TP BOUT (CN4301 pin 26)	VR4004	RGB 10 step signal  Adjust the black level of G and B waveform	
15	R sub brightness adjustment	H	TP GOUT (CN4301 pin 27) and TP ROUT (CN4301 pin 28)	VR4005	RGB 10 step signal  Adjust the black level of G and R waveform	
16	COM amp	H	TP VCOM (CN4301 pin 17)	VR4006	 6.30V ± 0.05V	
17	Aging				Input all screen white signals (or animation) Leave 30 minutes or more operation mode	
18	Flicker adjustment		Display	VR4101	Input the signal that black signal and white signal reverses line-by-line (RGB) Adjust so that display flicker is minimum	

7. GENERAL INFORMATION
7.1 DIAGNOSIS
7.1.1 DISASSEMBLY

● **Removing the Grille Assy**

1. Insert a screwdriver into the hole on the back of the unit and press it straight in the direction of the arrow as shown in Fig. 1.
   If you insert the screwdriver at an angle at the moment, you may damage some parts inside.
   Be sure to insert the screwdriver horizontally to the product.
2. Press and open the Grille Assy to the maximum extent with your hands.(Fig.1)
3. Remove the two screws. (Fig.2)
4. Unlock the connector with a standard tip screwdriver and remove the Grille Assy. (Fig.3)

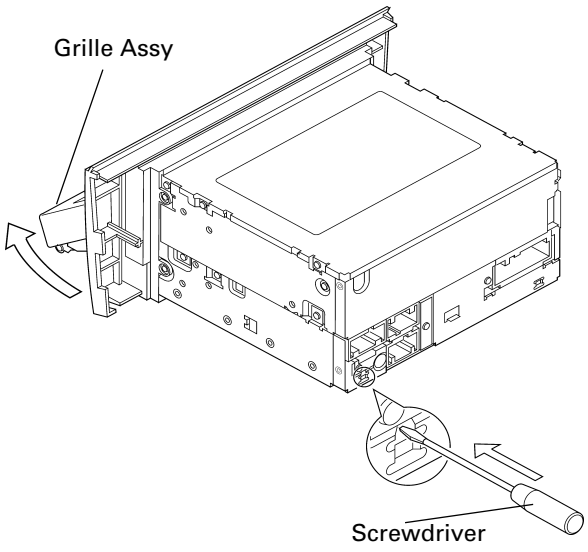


Fig.1

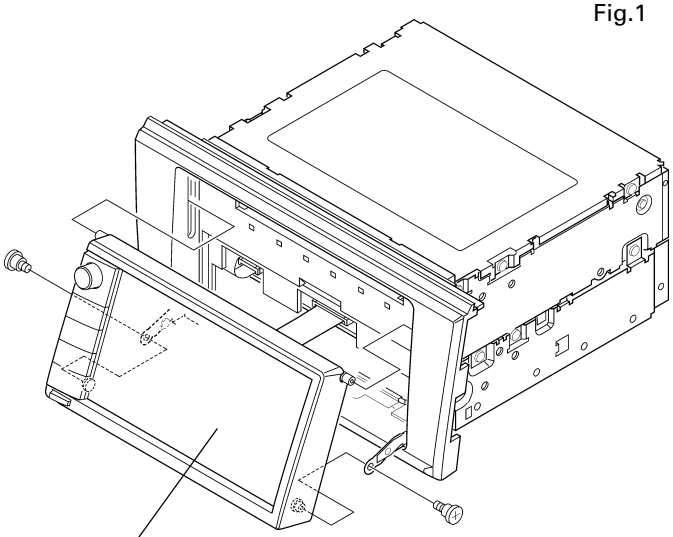


Fig.2

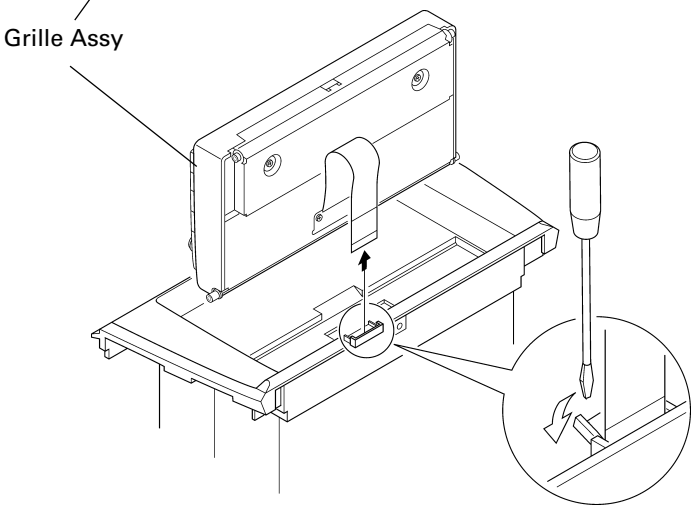


Fig.3

● **Removing the Case(Fig.4)**

1. Remove the four screws A and then remove the Case.

● **Removing the Panel Assy(Fig.4)**

1. Disconnect the connector.
2. Remove the four screws B and then remove the Panel Assy.

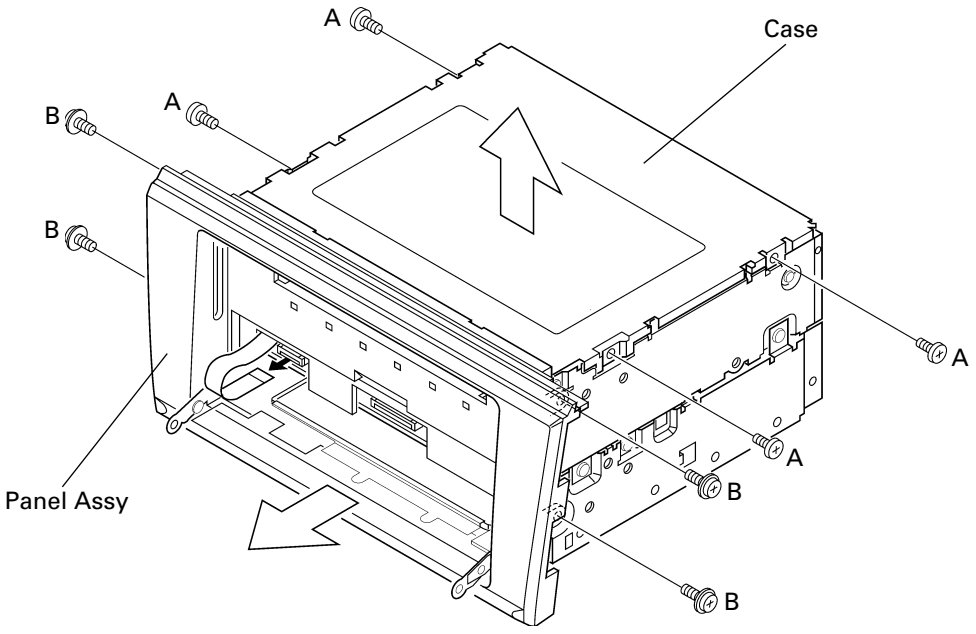


Fig.4

● **Removing the CD Mechanism Module(Fig.5)**

1. Remove the four screws.
2. Disconnect the connector and then remove the CD Mechanism Module.

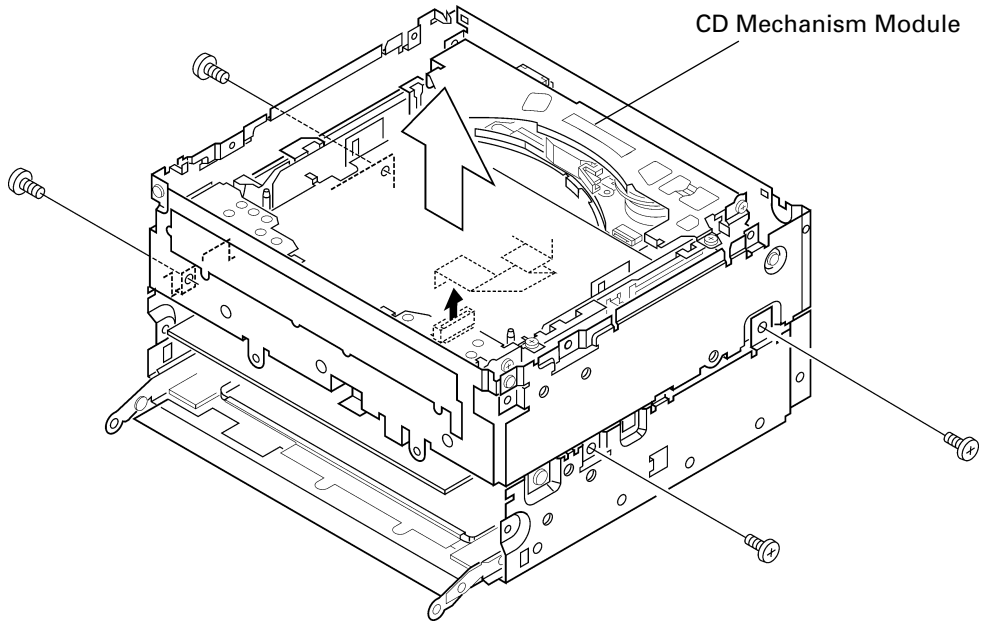


Fig.5

● **Removing the Mechanism Unit(Fig.6)**

1. Remove the two springs A and two springs B from the hook.
2. Remove the nine screws A and then remove the holder.
3. Remove the four screws B and then remove the two brackets from chassis.
4. Remove the four dampers and then remove the Mechanism Unit

● **Removing the Control Unit(Fig.6)**

1. Apply shorting solder to the PU flexible cable.
2. Disconnect the connector.
3. Remove the two screws C.
4. Remove the Control Unit(G2F).

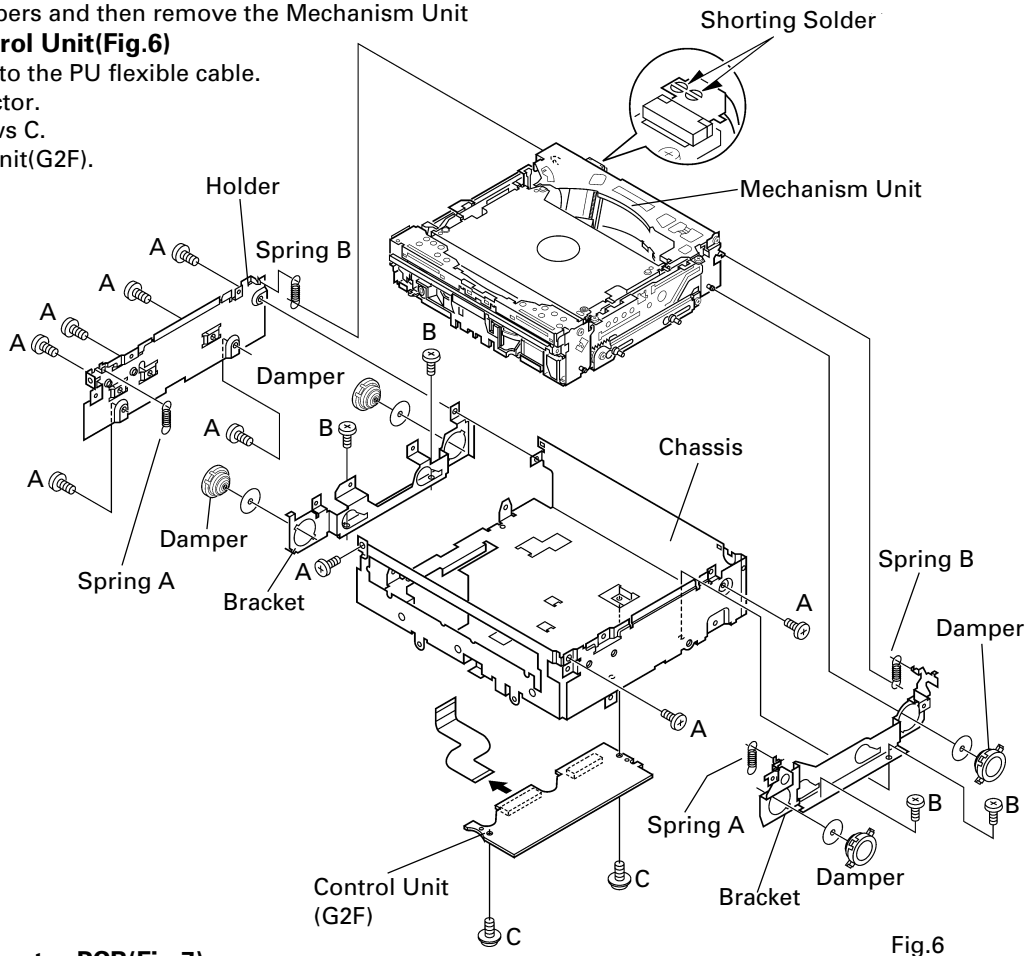


Fig.6

● **Removing the Connector PCB(Fig.7)**

1. Remove the two screws A and then remove the Connector PCB.

● **Removing the Drive Mechanism Unit(Fig.7)**

1. Disconnect the connector.
2. Remove the two screws B and then remove the Drive Mechanism Unit.

● **Removing the Tuner Audio Unit(Fig.7)**

1. Remove the two screws C, two screws D and screw E.
2. Unbend the tab indicated by arrow and then remove the Tuner Audio Unit.

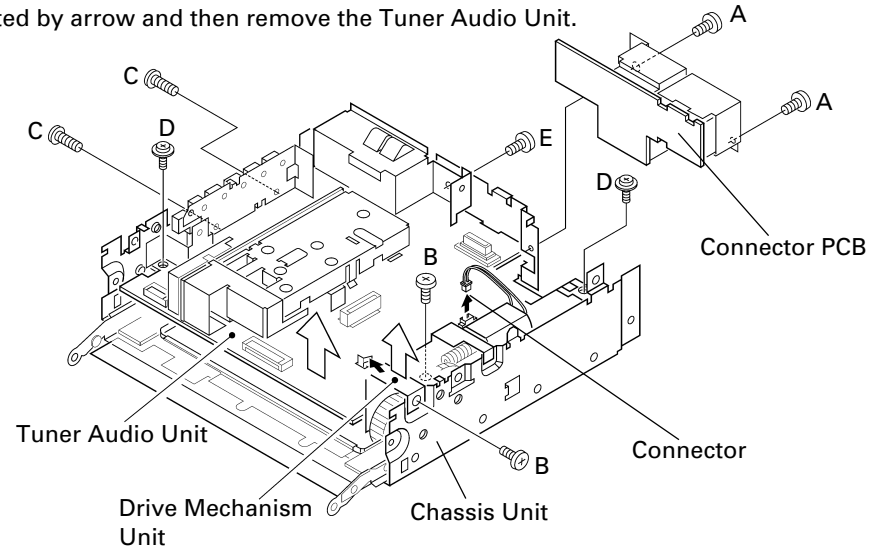


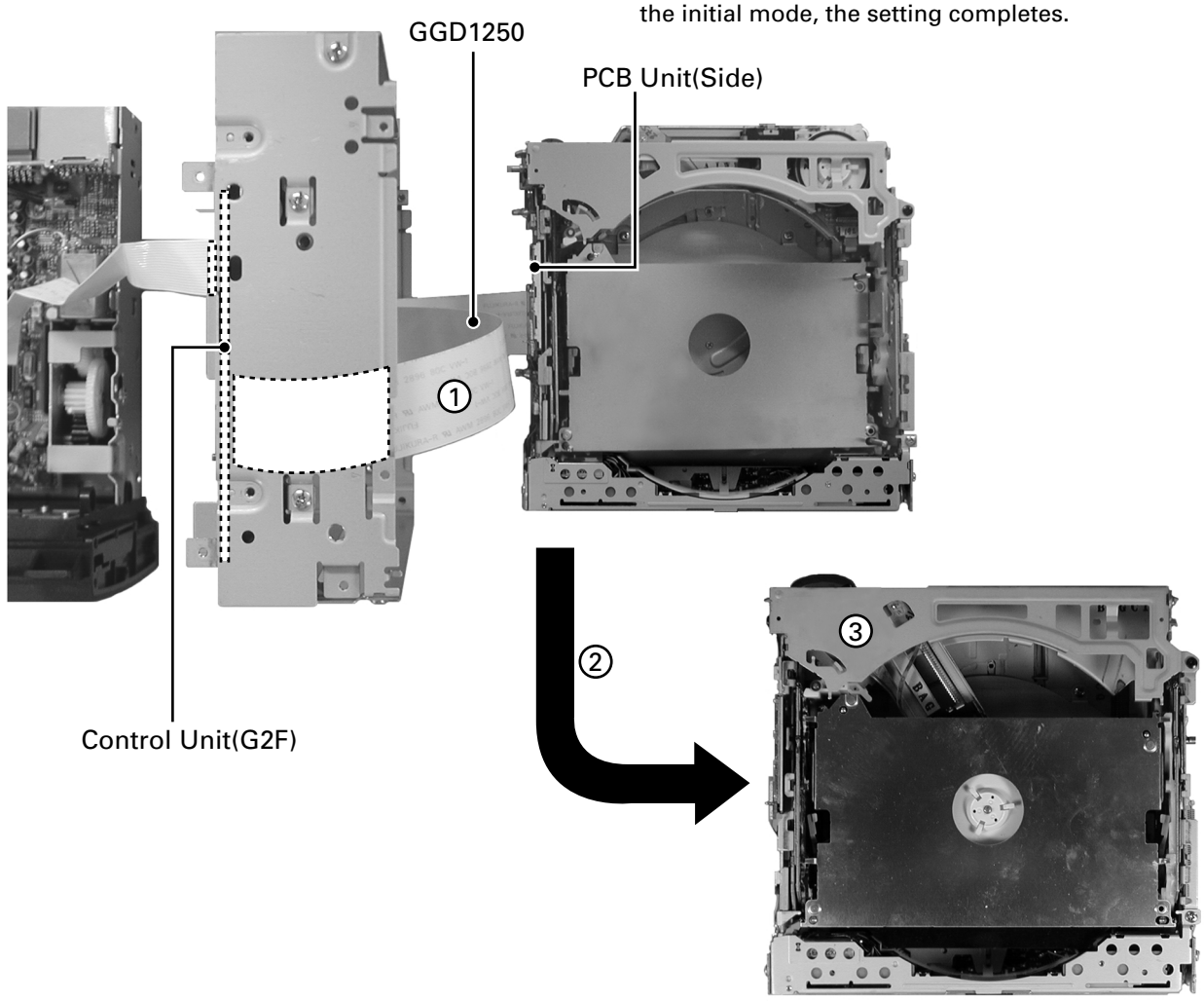
Fig.7

● Cautions on replacing the CD mechanism unit

The CD mechanism units available as service parts have been set in the shipment mode at the factory. Before mounting it on the product to be serviced, be sure to apply the power to a CD mechanism to put it into the initial mode, where the carriage mech assy stays at the disc clamp position, in accordance with the following method:

<Initial mode setting method>

1. Keep a CD mechanism unit out of the product to be serviced as shown below. Connect the 50-pin connector of the control unit (G2F) in the product and the 50-pin connector of the PCB unit (Side) in the CD mechanism by using the extension cable (GGD1250).
2. Apply the power (+14V) to the product to move the CD mechanism until it enters the initial mode and stops. (Operating time: about 30 seconds)
3. When it is confirmed that the CD mechanism stops in the initial mode, the setting completes.



● Removing the PU Unit(PX1)

1. Set the mechanism to the shipment mode.
2. Remove the two screws A and two screws B.
3. Remove the Frame.

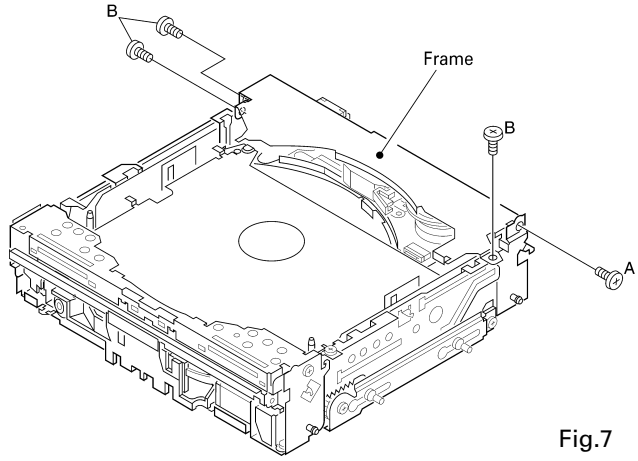


Fig.7

4. Apply shorting solder to the PU flexible cable before disconnecting it from the connector CN12.
5. Disconnect the flexible cable from the connector CN12, and remove the flexible cable Holder.
6. Remove the washer and Arm. (Be careful not to lose the spring B.)
7. Remove the screw, spring A, and Collar.
8. Remove the Carriage Mech. Assy.

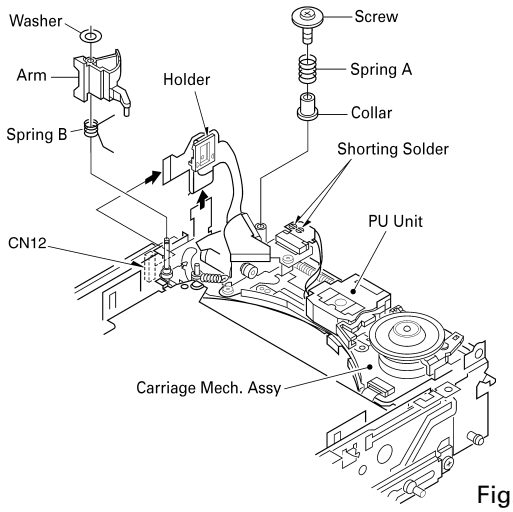


Fig.8

9. Apply shorting solder to the PU flexible cable before disconnecting it from the Connector.
10. Disconnect the PU flexible cable from the Connector.
11. Move the PU Unit to the left side slightly by turning the Gear.
12. Pull out the spindle motor Support Wheel Unit upwards to remove it.
13. Remove the Spring.
14. Slide the holder to make it easier to remove the Screw Unit.

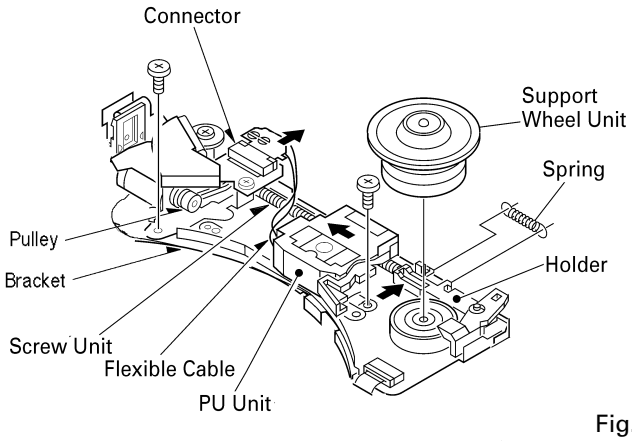


Fig.9

15. While pressing the shaft holder in the direction shown by the black arrow in the right figure, remove the PU Unit together with the Screw Unit.

Note:
To assemble the PU Unit, insert the Spring on the PU rear between the PU Unit and the Guide first.

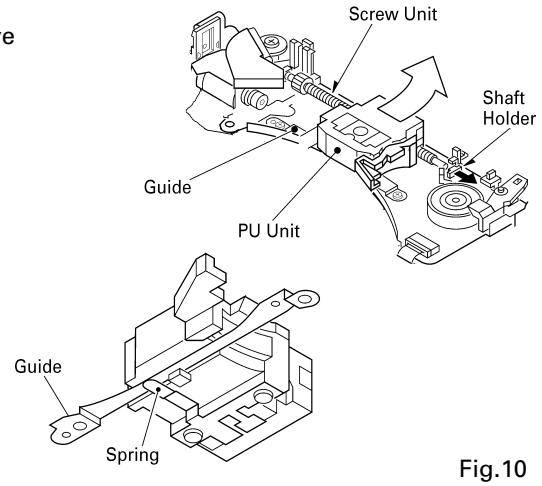
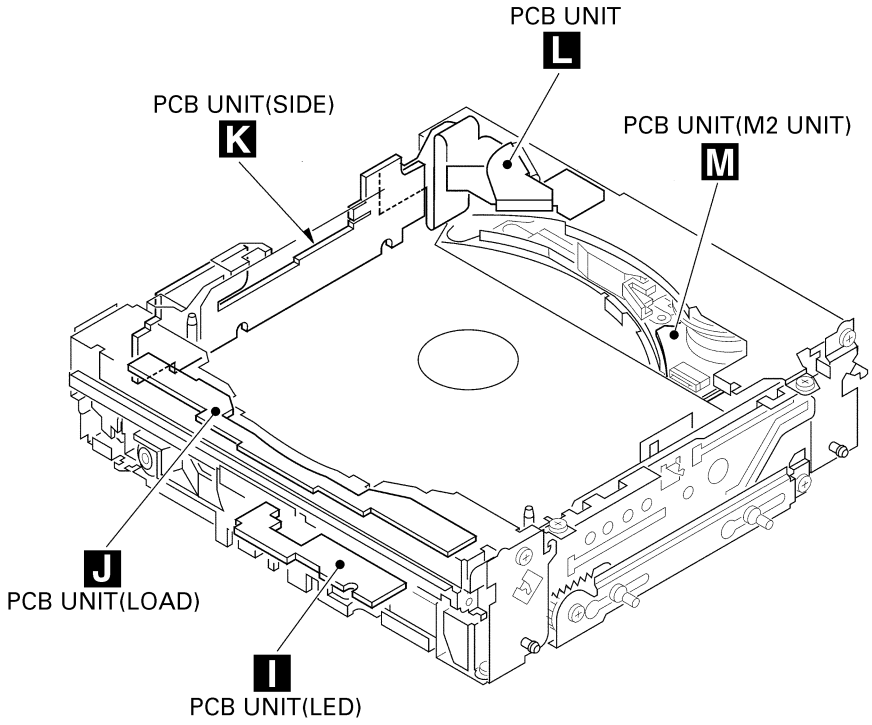
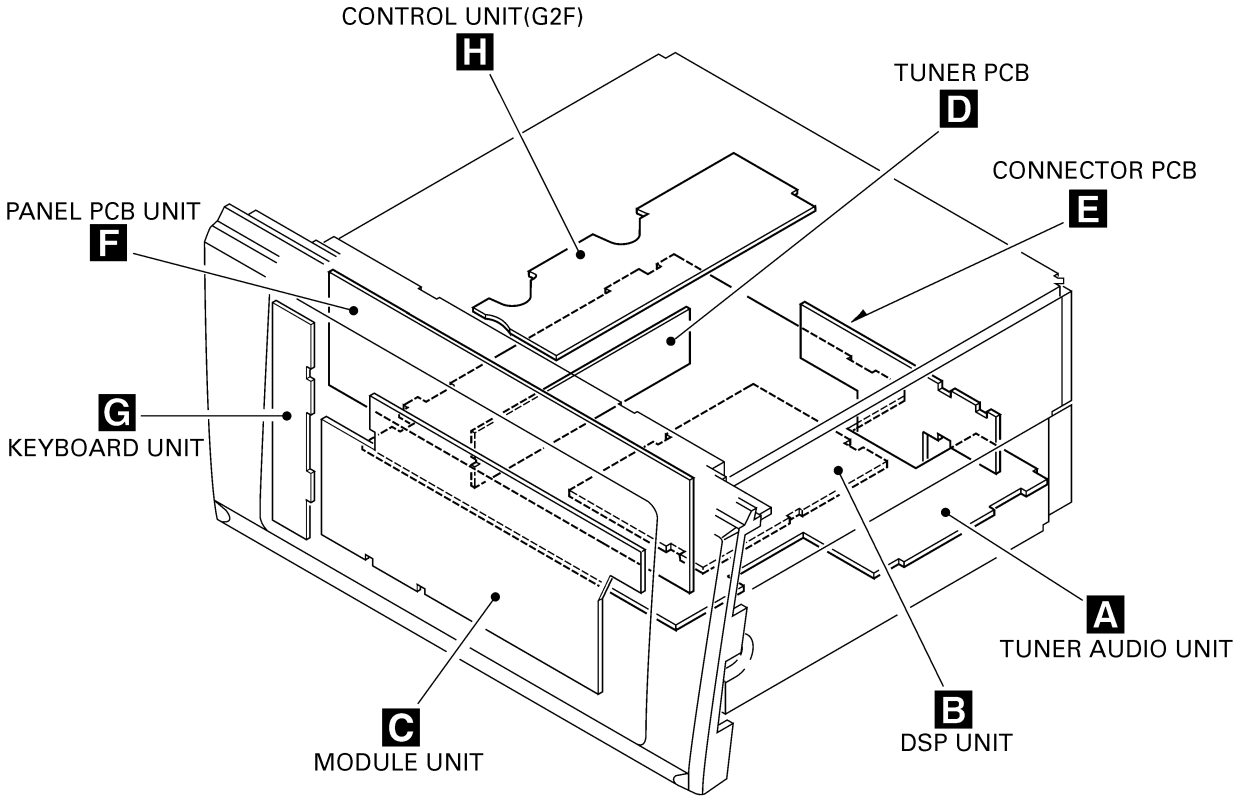


Fig.10

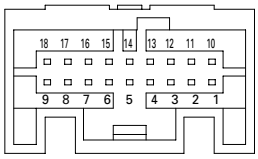
7.1.2 PCB LOCATIONS





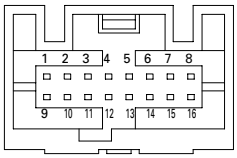
7.1.3 CONNECTOR FUNCTION DESCRIPTION

PIN NO.	FUNCTION
1	LF+
2	RF+
3	LR+
4	RR+
5	NC
6	NC
7	SUBWOOF+
8	NC
9	ENABLE/CLD
10	LF-
12	RF-
12	LR-
13	RR-
14	NC
15	NC
16	SUBWOOF-
17	AUDIO SHIELD GND
18	NC

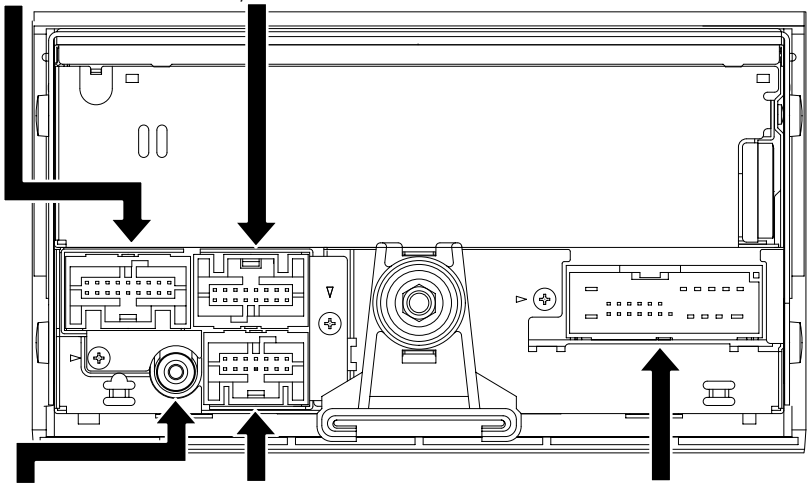


6ch AMPLIFIER

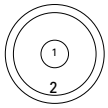
PIN NO.	FUNCTION
1	AUDIO L+
2	AUDIO L-
3	AUDIO-SHIELD
4	MONO+
5	MONO-
6	ASYSON
7	ACP A
8	ACP B
9	AUDIO R+
10	AUDIO R-
11	NC
12	NC
13	NC
14	NC
15	NC
16	NC



CD DJ, RSE or TCU

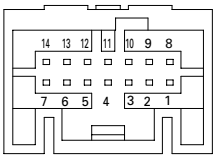


FM/AM ANTENNA



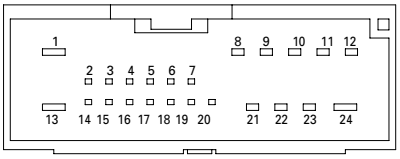
PIN NO.	FUNCTION
1	ANTENNA
2	SHIELD

NAVIGATION



PIN NO.	FUNCTION
1	RGB R
2	RGB G
3	RETURN
4	NC
5	VOICE+
6	CLOCK ON
7	CAN A
8	RGB B
9	SYNC
10	NC
11	NC
12	VOICE-
13	NC
14	CAN B

POWER SUPPLY



PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	BACKUP	13	POWER_GND
2	DELAY/ACC	14	NC
3	PWM+	15	START
4	PWM-	16	NC
5	IP OPEN+	17	NC
6	IP OPEN-	18	SWC+
7	PTA	19	SWC-
8	NC	20	REVERSE
9	NC	21	NC
10	NC	22	NC
11	NC	23	NC
12	NC	24	RADIO_GND

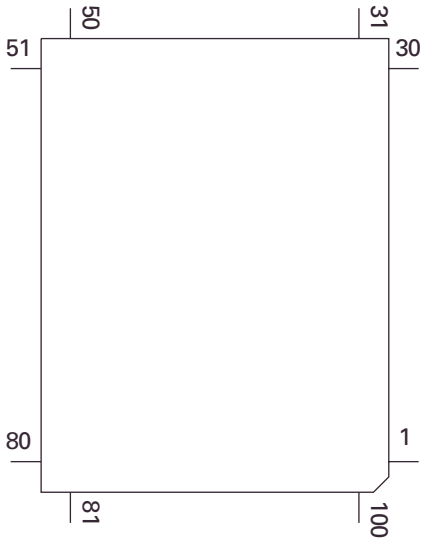
7.2 IC

● **Pin Functions (PD5665A)**

Pin No.	Pin Name	I/O	Function and Operation
1	CTX	O	CAN communication output
2	CRX	I	CAN communication input
3	PWMIN	I	ILM PWM input
4	ILMOUT	O	ILM D/A output
5	PDO	O	Tuner : PLL/ DA IC data output
6	PDI	I	Tuner : PLL Data input
7	PCK	O	Tuner : PLL/DA IC clock output
8	BYTE		Not used
9	CNVSS		GND
10	SCLKIN	I	Sub clock input
11	SCLKOUT	O	Sub clock output
12	RESET	I	Reset input
13	XOUT	O	Crystal oscillator connection pin
14	VSS		GND
15	XIN	I	Crystal oscillator connection pin
16	VCC	I	Power supply
17	NMI	I	Not used
18	RCK	I	RBDS : Clock input
19	$\overline{\text{ILMINT}}$	I	Illumination interrupt input
20	$\overline{\text{ROTINT}}$	I	Rotary encoder interrupt input
21	$\overline{\text{BSENS}}$	I	Back up sense input
22	$\overline{\text{OPENSW}}$	I	OPEN switch input
23	$\overline{\text{ASENS}}$	I	ACC sense input
24	$\overline{\text{HOMESW}}$	I	Home switch input
25	IPOPEN	I	IP open input
26	BEEP	O	Beep output
27	$\overline{\text{CDSRQ}}$	I	F-BUS : Communication request input
28	ECLK	O	Electronic volume / DSP clock output
29	EDTIN	I	DSP data Input
30	EDT	O	Electronic volume / DSP data output
31	ATXD	O	ACP-BUS: ACP data output
32	ARXD	I	ACP-BUS: ACP data input
33	LCK	O	Expander IC : data latch output
34	$\overline{\text{EVCE}}$	O	Evol chip enable output
35	MOSI	O	F-BUS : Bus data output
36	MISO	I	F-BUS : Bus data input
37	$\overline{\text{SCK}}$	O	F-BUS : Bus clock output
38	$\overline{\text{CSCD}}$	O	F-BUS : Communication status output
39	EPCE	O	Diag EPROM CE (CLKout) output
40	$\overline{\text{BRST}}$	O	F-BUS : BUS reset output
41	NC	O	Not used
42	$\overline{\text{DSPCS}}$	O	DSP : DSP IC chip select output
43	$\overline{\text{DSPRST}}$	O	DSP : DSP IC reset output
44	$\overline{\text{DSPACK}}$	I	DSP : DSP IC acknowledge input
45	IFOK	I	DSP : DSP internal flag input
46	$\overline{\text{DSPERR}}$	I	DSP : DSP internal error input
47	$\overline{\text{CLIPIN}}$	I	Clip detector input
48	$\overline{\text{OE}}$	O	Expander output enable output
49	ROMCK	O	ROM1 / Expander clock output
50	ROMDATA	O	ROM1 / Expander data I/O output
51	DRST	O	RBDS : IC reset output
52	REVICE	I	RBDS : Receive input
53	RDT	I	RBDS : RBDS data input
54	RDSLK	I	RBDS : RDSLK input
55	$\overline{\text{ST}}$	I	Tuner : Stereo input
56	LOCL	O	Tuner : Local L output
57	$\overline{\text{PLLCE2}}$	O	Tuner : PLL chip enable output 2

Pin No.	Pin Name	I/O	Function and Operation
58	SD	I	Tuner : SD input
59	PLLCE	O	Tuner : PLL chip enable output 1
60	PSENS	I	Photo sense input
61	SYSPWR	O	System power output
62	VCC		Power supply
63	MUTE	O	System mute output
64	VSS		GND
65	AMPPWR	O	Amp power output
66	$\overline{\text{DSPCS2}}$	O	DSP : DSP IC 2 chip select output
67	$\overline{\text{RPAIN}}$	I	Parking aid input
68	SWVDD	O	Power output
69	DALD	O	DA IC load output
70	TESTIN	I	Chip test mode input
71	RMUTE	O	REAR mute output
72	ASYSON	O	ACP-BUS: power output
73	$\overline{\text{WAKEUP}}$	I	Wake Up key sense input
74	$\overline{\text{PTAIN}}$	I	PTA interrupt input
75	ACPINT	I	ACP-BUS: ACP Bus interrupt input
76	CLKWK	O	Wake Up for clock display output
77-80	$\overline{\text{KDT3}}$-$\overline{\text{KDT0}}$	I	Key data input
81	YDT1	O	Touch Panel : Y data output 1
82	YDT0	O	Touch Panel : Y data output 0
83	XDT1	O	Touch Panel : X data output 1
84	XDT0	O	Touch Panel : X data output 0
85-88	$\overline{\text{KST3}}$-$\overline{\text{KST0}}$	O	Key strove output
89	ROTIN1	I	Rotary encoder pulse input 1
90	ROTIN0	I	Rotary encoder pulse input 0
91	MODEL	I	Distinction of vehicle input
92	TPADIN1	I	Touch Panel : AD input 1
93	TPADIN0	I	Touch Panel : AD input 0
94	SWCIN	I	SWC input
95	ILMI	I	Illumination sense input
96	AVSS		A/D converter ground
97	SL	I	Tuner SL Level input
98	VREF		A/D converter reference voltage
99	AVPP		Not used
100	CANPWR	O	CAN-BUS : Power output

* PD5665A



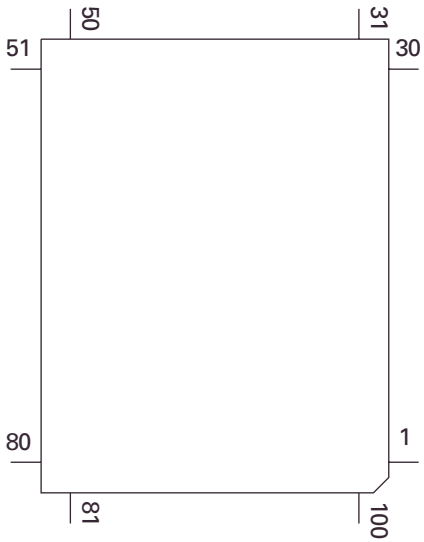
IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

● **Pin Functions (PD2071A)**

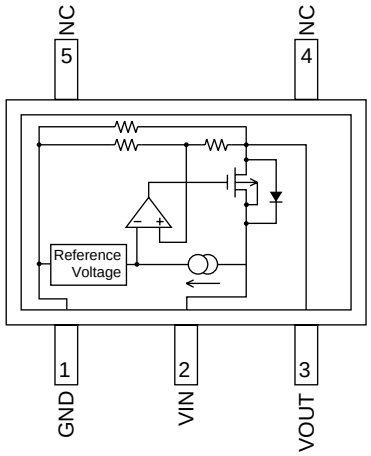
Pin No.	Pin Name	I/O	Function and Operation
1	ECKO	O	External clock output
2	ECKI	I	External clock input
3	GNDX		Ground terminal for oscillator
4	GNDAL		Ground terminal(DAC L channel)
5	AOL	O	DAC analog signal output (L channel)
6	VRL		DAC L channel reference voltage terminal
7	VDAL		Power supply terminal (DAC L channel)
8	VDAR		Power supply terminal (DAC R channel)
9	VRR		DAC R channel reference voltage terminal
10	AOR	O	DAC analog signal output(R channel)
11	GNDAR		Ground terminal (DAC R channel)
12	GNDAC		Ground terminal (DAC C channel)
13	AOC	O	DAC analog signal output(C channel)
14	AOCT	O	DAC analog signal output with attenuator (C channel)
15	VRC		DAC C channel reference voltage terminal
16	VDAC		Power supply terminal (DAC C channel)
17	VRO	O	Attenuator reference voltage terminal (Buffer output)
18	VRI	I	Attenuator reference voltage terminal (Buffer input)
19	VDAS		Power supply terminal (DAC S channel)
20	VRS		DAC S channel reference voltage terminal
21	AOST	O	DAC analog signal output with attenuator (S channel)
22	AOS	O	DAC analog signal output (S channel)
23	GNDAS		Ground terminal(DAC S channel)
24	GND		Ground terminal
25-29	TP0-TP4	O	Test terminal (Open)
30	VDD		Power supply terminal
31	VDDR		Power supply terminal (for DLRAM)
32	GNDR		Grand terminal (for DLRAM)
33-40	TP5-TP12	O	Test terminal (Open)
41	FS	O	Clock output terminal (1 fs)
42	CKO0	O	Clock output 0
43	CKO1	O	Clock output 1
44	GND		Grand terminal
45	TP13	O	Test terminal (Open)
46	MCK	O	MCK clock output (256 fs / 512 fs / (384 / 768 fs))
47	VDD		Power supply terminal
48-53	TP14-TP19	O	Test terminal (Open)
54	CKS	I	Mater clock select input
55	STEP0	I	Action step select input 0
56	STEP1	I	Action step select input 1
57	$\overline{RST}$	I	Reset input
58	VDD		Power supply terminal
59	SYNC	I	Program synchronizing signal input
60	ELRO	I	LR clock input for serial data output
61	ELRI	I	LR clock input for serial data input
62	EBCO	I	Bit clock input for serial data output
63	EBCI	I	Bit clock input for serial data input
64	DIN	I	Serial data input
65	DOUT	O	Serial data output
66,67	EM0,1	I	De-emphasis set up input
68-70	IFF0-2	I	Interface flag input
71	GND		Ground terminal
72	$\overline{CS}$	I	Chip select input
73	IFCK	I	Data shift clock input
74	IFDI	I	Data input
75	IFDO	O	Data output
76	IFOK	O	Operation flag output

Pin No.	Pin Name	I/O	Function and Operation
77	$\overline{ACK}$	O	Acknowledge output
78	$\overline{ERR}$	O	Error flag output
79	I2CS	I	I2C bus select input
80	BOOT	I	Self boot control input
81,82	BA0-BA1	I	Boot address setup input
83	VDD		Power supply terminal
84-87	TST0-3	I	Test terminal (Open)
88	GND		Grand terminal
89	VSAL		Analog ground terminal (ADC L channel)
90	LIN	I	ADC analog signal input (L channel)
91	AVRL		ADC L channel reference voltage terminal
92	VDL		Analog power supply terminal (ADC L channel)
93	VDR		Analog power supply terminal (ADC R channel)
94	AVRR		ADC R channel reference voltage terminal
95	RIN	I	ADC analog signal input (R channel)
96	VSAR		Analog ground terminal (ADC R channel)
97	GNDX		Ground terminal
98	XI	I	Crystal oscillator connect terminal (Input)
99	XO	O	Crystal oscillator connect terminal (Output)
100	VDX		Power supply terminal for oscillator

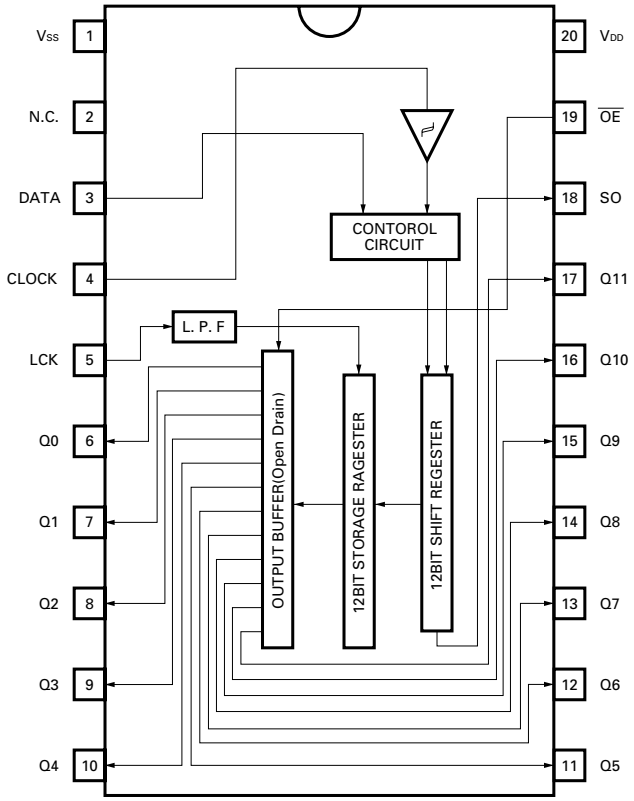
* PD2071A



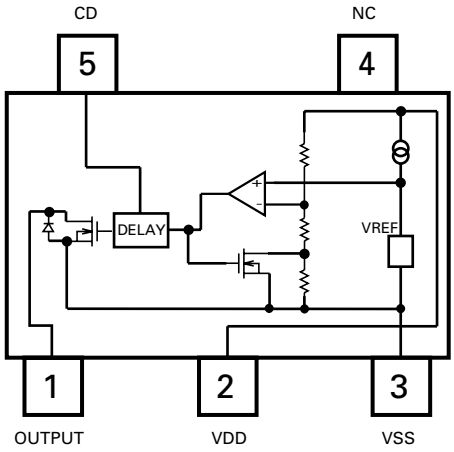
S-81250SGQD



* BU2099FV



* S-80942ANMP-DD6



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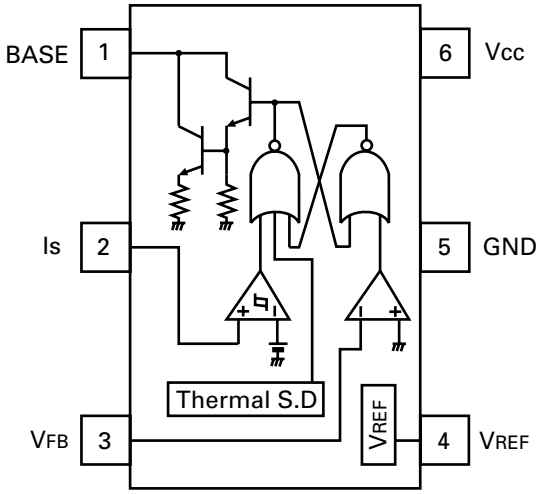

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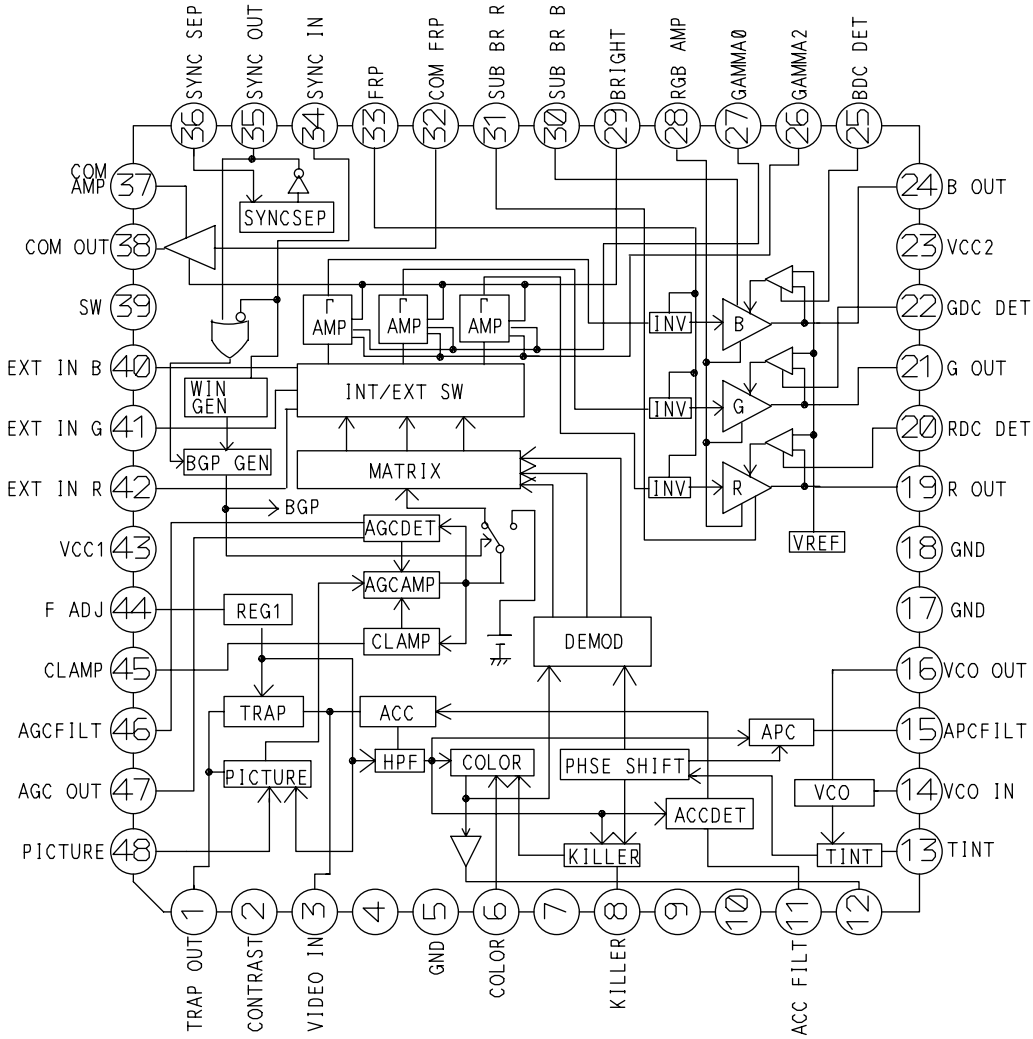
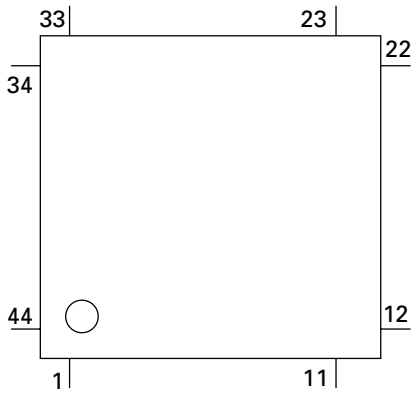


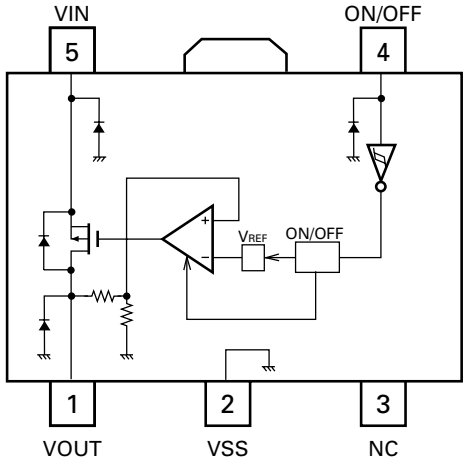
● Pin Functions (SM5903BFP)

Pin No.	Pin Name	I/O	Function and Operation
1	VDD2		Power supply terminal
2-6	UC1-UC5	I/O	Micro computer interface : Extension input / output
7	NC		Not used
8	NTEST	I	Test input
9	CLK	I	Clock input (16.9344MHz)
10	VSS		Ground terminal
11	YSRDATA	I	Audio : Serial data input
12	YLRCK	I	Audio : Serial LR clock input
13	YSCK	I	Audio : Serial bit clock input
14	ZSCK	O	Audio : Serial bit clock output
15	ZLRCK	O	Audio : Serial LR clock output
16	ZSRDATA	O	Audio : Serial data output
17	YFLAG	I	RAM over flow flag input from signal processing IC
18	YFCLK	I	Frame clock input
19	YBLKCK	I	Sub code block clock input
20	NRESET	I	System reset input
21	ZSENSE	O	Micro computer interface : Status output
22	VDD1		Power supply terminal
23	YDMUTE	I	Mute input
24	YMLD	I	Micro computer interface : Latch clock input
25	YMDATA	I	Micro computer interface : Serial data input
26	YMCLK	I	Micro computer interface : Shift clock input
27	A10	O	D-RAM : Address output
28	NCAS	O	D-RAM : $\overline{CAS}$ control output
29,30	D2,D3	I/O	D-RAM : Data input / output
31,32	D0,D1	I/O	D-RAM : Data input / output
33	NWE	O	D-RAM : $\overline{WE}$ control output
34	NRAS	O	D-RAM : $\overline{RAS}$ control output
35-40	A9-A4	O	D-RAM : Address output
41-44	A0-A3	O	D-RAM : Address output

SM5903BFP



S-818A33AUC-BGN

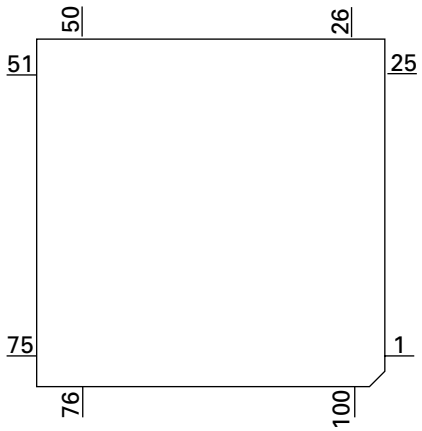


● Pin Functions (PD5705B)

Pin No.	Pin Name	I/O	Function and Operation
1	STSMO	O	STS test output
2	SPDLFG	I	Spindle FG pulse input
3	NC		Not used
4	NC		Not used
5	NC		Not used
6	BYTE	I	VCC connected
7	CNVSS	I	VSS connected
8	POWER	O	CD : +5V control output
9	CONT	O	CD : Servo driver control output
10	$\overline{\text{RESET}}$	I	Reset input
11	XOUT	O	Crystal oscillating element connection pin
12	VSS1		GND
13	XIN	I	Crystal oscillating element connection pin
14	VCC		Back up 5V
15	$\overline{\text{NMI}}$	I	Pull up
16	NC		Not used
17	BRST	I	P–BUS reset input
18	NC		Not used
19,20	NC	O	Not used
21	CAMOK	I	Cam operation sense 1 input
22	CAMLOAD	I	Cam operation sense 2 input
23	CAMCLMP	I	Cam operation sense 3 input
24	$\overline{\text{TESTIN}}$	I	Test program start input
25	LOCK	I	CD : LSI spindle lock sense input
26	NC		Not used
27	BRXEN	I/O	P-BUS : Reception enable input/output
28	BSRQ	O	P-BUS : Serial pole request output
29	BSO	O	P–BUS : Serial data output
30	BSI	I	P–BUS : Serial data input
31	BSCK	O	P–BUS : Clock output
32	NC	O	Not used
33	XSO	O	CD : LSI data output
34	XSI	I	CD : LSI data input
35	XSCK	O	CD : LSI clock output
36	VDCONT	O	VD control output
37	LCCONT	O	LCD drive voltage select output
38–44	NC	O	Not used
45	STSSL	O	STS IC latch output
46	NC	O	Not used
47	XAO	O	CD : LSI data discernment control signal output
48	$\overline{\text{XSTB}}$	O	CD : LSI strobe output
49	$\overline{\text{XRST}}$	O	CD : LSI reset output
50	$\overline{\text{CCS}}$	O	Compression IC chip enable output
51	$\overline{\text{EPCS}}$	I/O	EEPROM detect input , Chip select output
52	FOK	I	CD : LSI focus OK signal input
53	ELVCONT	O	ELV drive voltage select output
54–58	NC	O	Not used
59	STSWAQV	O	STS test output
60	VCC		Power supply
61	STSDEC	O	STS test output
62	VSS2		GND
63	STSENC	O	STS test output
64	STSSTD	O	STS test output
65	STSSTC	O	STS test output
66	STSSTB	O	STS test output
67	STSSTA	O	STS test output
68–71	NC	O	Not used

Pin No.	Pin Name	I/O	Function and Operation
72	HOME2	I	Disc clamp claw sense input
73	SBSY	I	Sub code synchronous interrupt signal input
74	CDMUTE	O	CD : Mute output
75	LO2	O	LOAD motor control 2 output
76	LO1	O	LOAD motor control 1 output
77	ELV2	O	ELV Motor control 2 output
78	ELV1	O	ELV Motor control 1 output
79	HOME	I	Carriage home switch input
80	STS16M	I	STS DRAM 4M/16M(H) select input
81	LOADSW1	I	LOAD operation sense 1 input
82	LOADSW2	I	LOAD operation sense 2 input
83,84	NC		Not used
85	$\overline{\text{ADENA}}$	O	AVREF enable output
86	CG1	O	Cam motor 1 output
87	CG2	O	Cam motor 2 output
88	LOADVOL2	I	LOAD voltage sense 2 input
89	LOADPHT	I	LOAD operation photo sense input
90	LOMMON	O	Not used
91	ELVSENS	I	ELV position select input
92	EREFF		ELV sense reference voltage
93	TEMP	I	CD : Temperature sense input
94	AVSS		A/D converter ground potential
95	VDIN	I	CD : Power supply short sensor input
96	VREF	I	A/D converter reference voltage input
97	AVCC		A/D converter ground
98	STSSI	I	STS IC data input
99	STSSO	O	STS IC data output
100	STSSCK	O	STS IC clock output

* PD5705B



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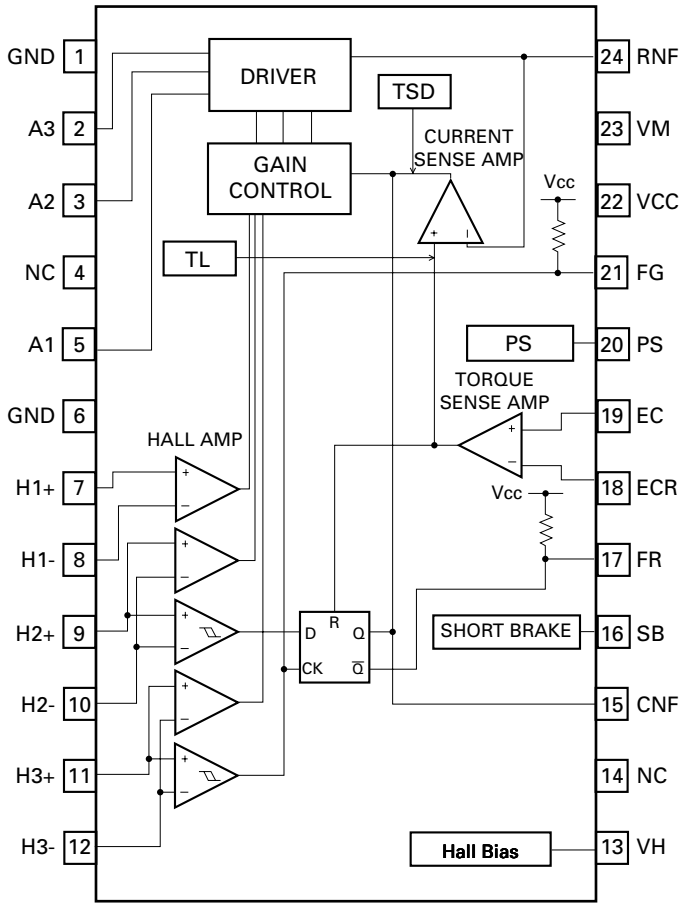
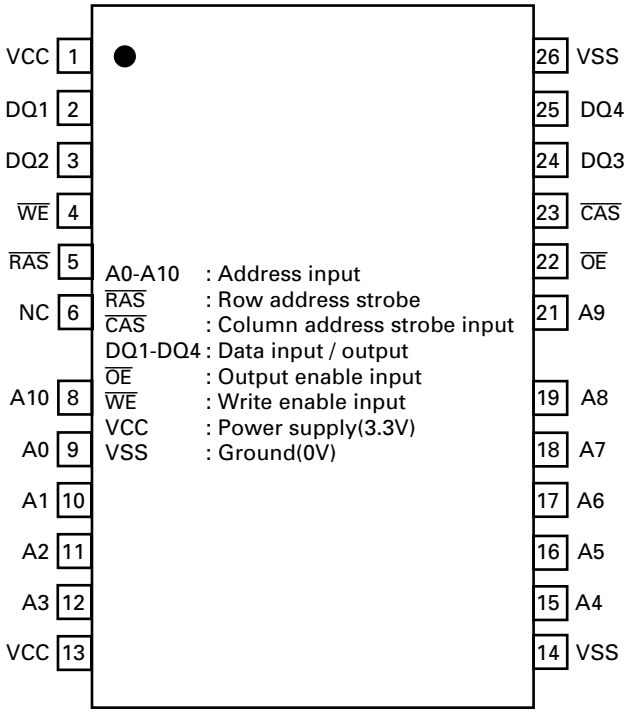


* MSM51V17400F6TFT



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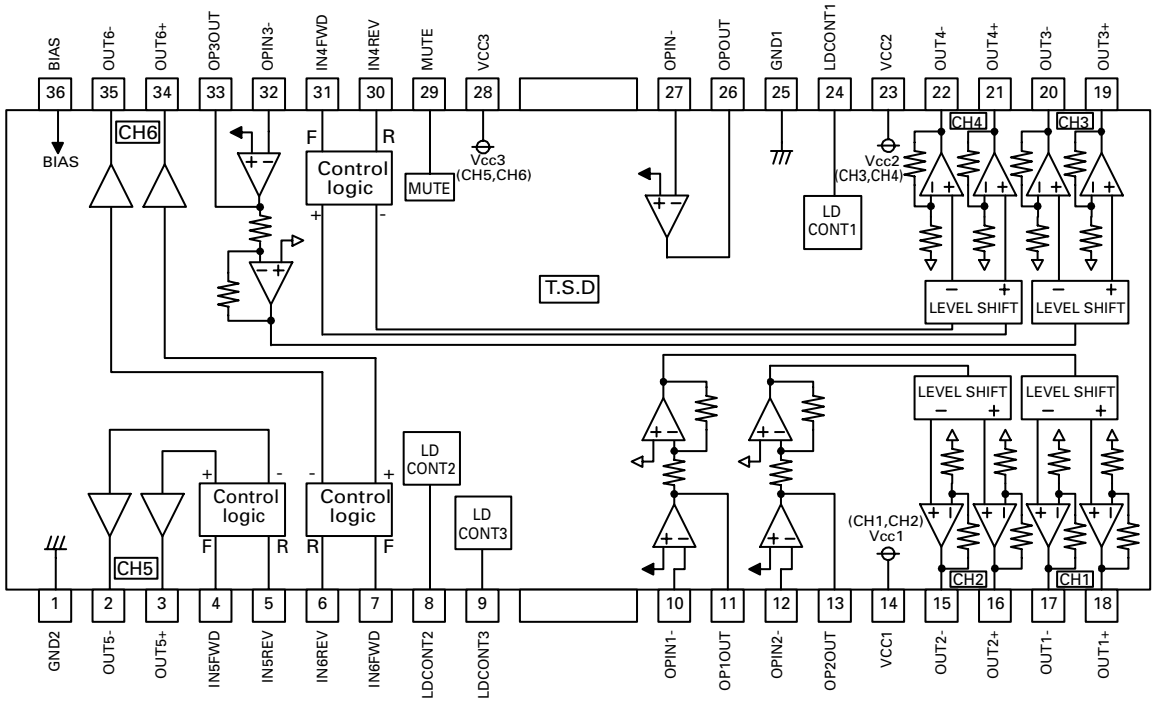
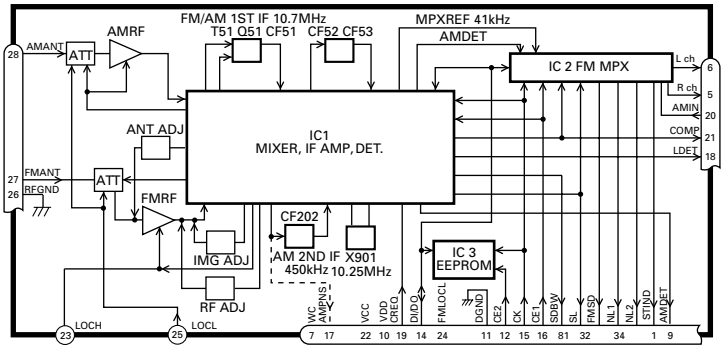


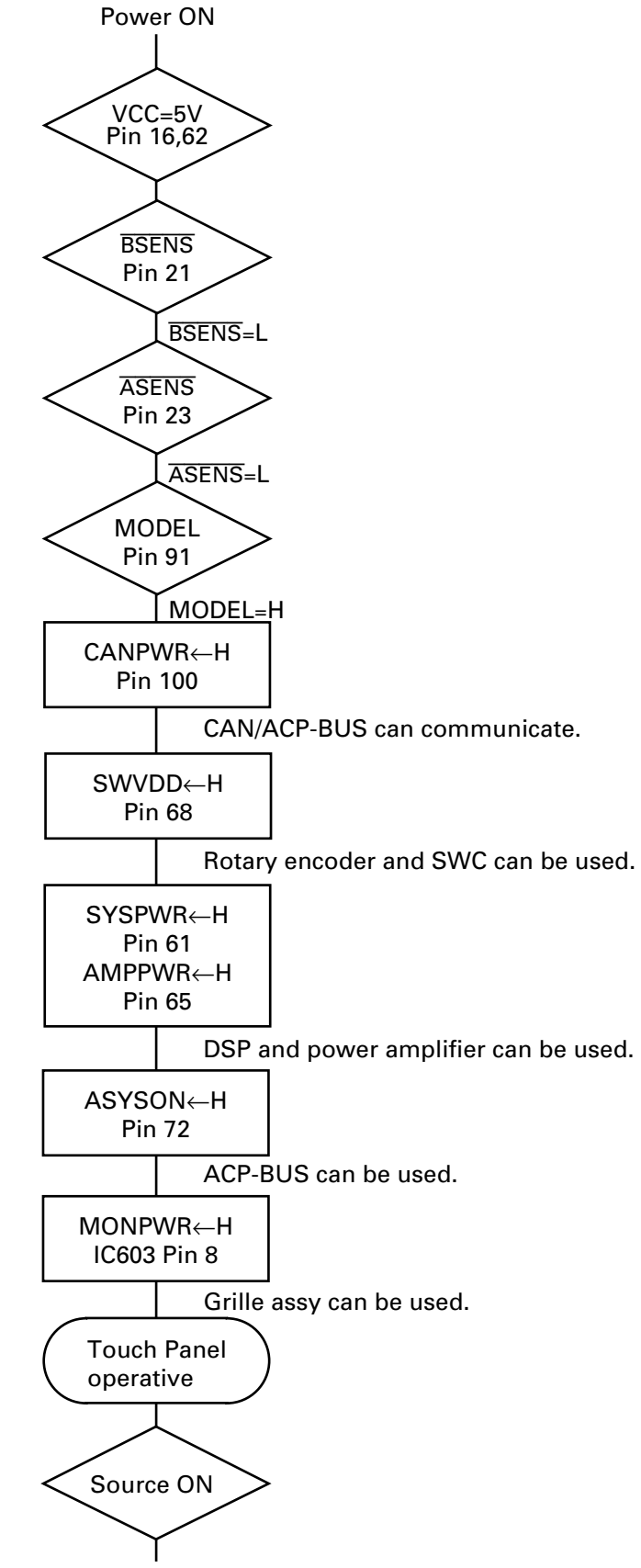
● FM/AM Tuner Unit



No.	Symbol	I/O	Explain	
1	STIND	O	stereo indicator	"Low" when the FM stereo signals are received. To be pulled up to the "VDD" at 47kΩ.
2	FMSD	O	FM station detector	"High" when signals are received. To be pulled up to the "VDD" at 47kΩ Meanwhile, 10kΩ should be used when taking diver FIX trigger from here and "High: 0.9VDD or more" and "Low: 250mV or less". (Should satisfy the diver IC specifications)
3	NL1	O	noise level-1	"High" when noise is received. Output for the RDS. GND at 47kΩ//1,800pF.
4	NL2	O	noise level-2	"High" when noise is received. Output for the RDS. GND at 36kΩ//330pF.
5	Rch	O	R channel output	FM stereo "R-ch" signal output or AM audio output. Add the specified de-emphasis constant.
6	Lch	O	L channel output	FM stereo "L-ch" signal output or AM audio output. Add the specified de-emphasis constant.
7	WC		write control	EEPROM write control. Writing permissible at "Low". Normally open.
8	SDBW	O	SD bandwidth	SD bandwidth signal output. For detection of detuning data for the RDS.
9	AMDET	O	AM detector output	AM detector output. r out < 100Ω
10	VDD		power supply	Power supply pin for the digital section. DC 5V +/- 0.25V. Be careful about overlapping noise in the logic section.
11	DGND		digital ground	Grounding for the digital section.
12	CE2	I	chip enable-2	EEPROM chip enable. Active a "Low" To be pulled up to the "VDD" at 47kΩ
13	SL	I/O	signal level	Received FM/AM signal level (strength) output. Connect the specified load resistor and capacitor (10k Ω+ 39k Ω//4,700pF)
14	DI/DO	I/O	data input/ data output	Data input/Data output To be pulled up to the "VDD" at 47kΩ
15	CK	I	clock	Clock input To be pulled up to the "VDD" at 47kΩ
16	CE1	I	chip enable-1	AF·RF chip enable. Active at "High"To be grounded at 47kΩ
17	AMPNS	O	AM PNS IF signal	IF signal output for AM PNS circuit.
18	LDET	O	lock detector	Active at "Low". To be pulled up to the "VDD" at 47kΩ
19	CREQ	I	current request	Active at "Low". To be grounded at 47kΩ
20	AMINI		AM audio input	The frequency response and the level are set by connecting an external CR network with terminal AMIN as terminal AMDET. r in = 50kΩ
21	COMP	O	composite signal	FM composite signal output. r out < 100Ω
22	VCC		power supply	Analog section power supply pin.DC 8.4V +/- 0.3V
23	LOCH	I	local high	FM local high pin. When seeking local high, apply 5V together with "LOCL".
24	FMLOCL	I	FM local low	FM local low pin. When seeking local low, apply 5V to the base of the NPN transistor with which the specified resistor is being connected to the emitter. Keep it open in case of ordinary marketed models.
25	LOCL	I	local low	FM/AM local low pin. When seeking local low, apply 5V to the base of the NPN transistor.Since this pin is exclusive for AM when the FMLOCL is in use, do not drive it under FM.
26	RFGND		RF ground	Grounding for the antenna section.
27	FMANT	I	FM antenna input	FM antenna input. 75Ω. Surge absorber (DSP-201M-S00B) is necessary.
28	AMANT	I	AM antenna input	AM antenna input. High impedance. Connect to the antenna through an L (LAU type) of 4.7μH.To cope with the power transmission line hums, insert a series circuit consisting of an L (a coil of about 100mH) + R (a resistor of 470 Ω to 2.2kΩ) between the GND.

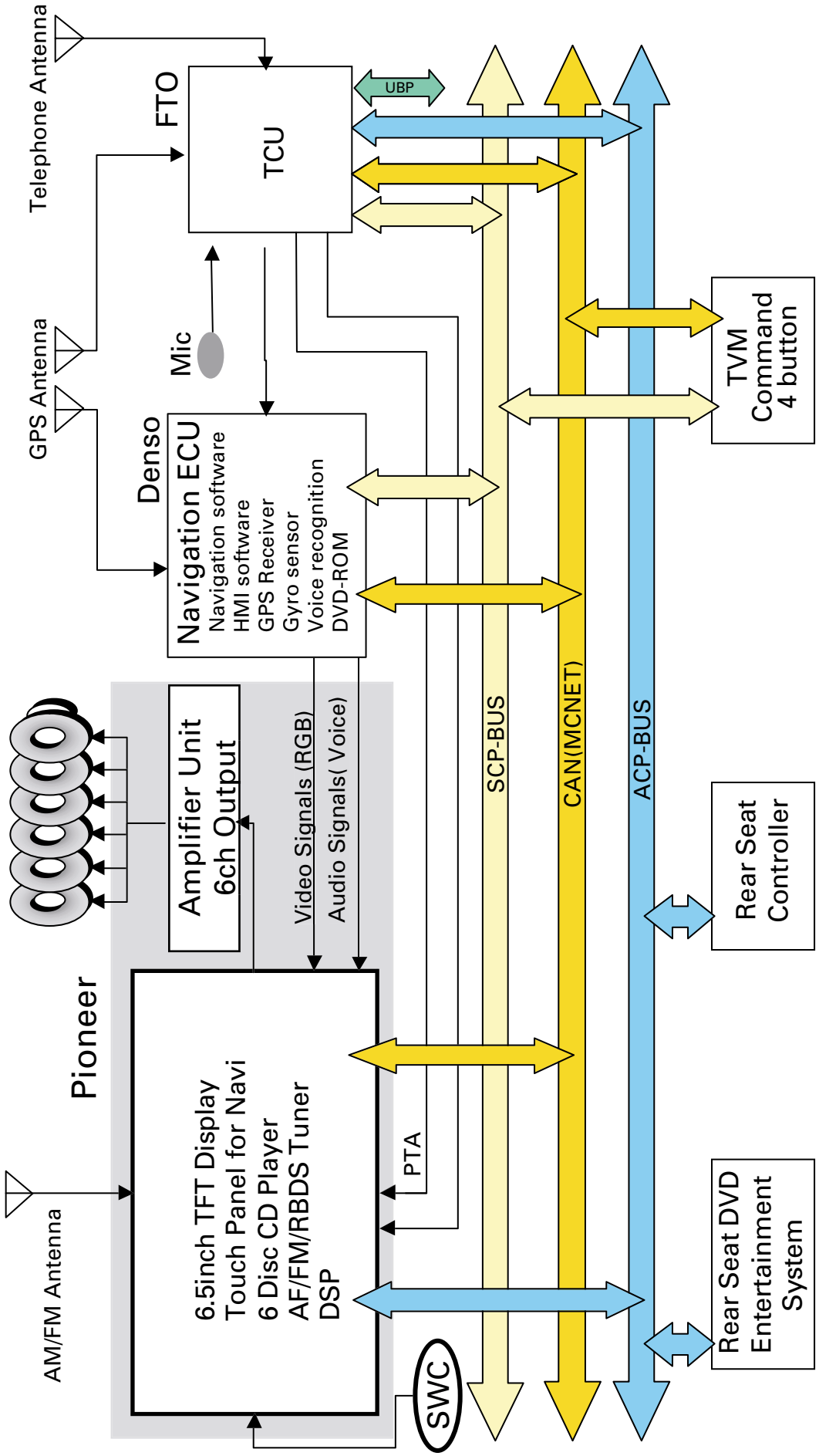
7.3 EXPLANATION

7.3.1 OPERATIONAL FLOW CHART



Completes power-on operation.
(After that, proceed to each source operation)

7.3.2 SYSTEM BLOCK DIAGRAM



7.4 NOTES ON SERVICING

7.4.1 CLEANING

Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
CD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

7.4.2 FACTORY SETTINGS

● When the Repair is Complete

When the repair is complete, make the CD mechanism ready for transportation.

Turing on "Shipment mode"
(to prevent damage during shipment)

●Remove all discs loaded in this product, before disconnecting the power supply connector(vehicle harness).

⇩

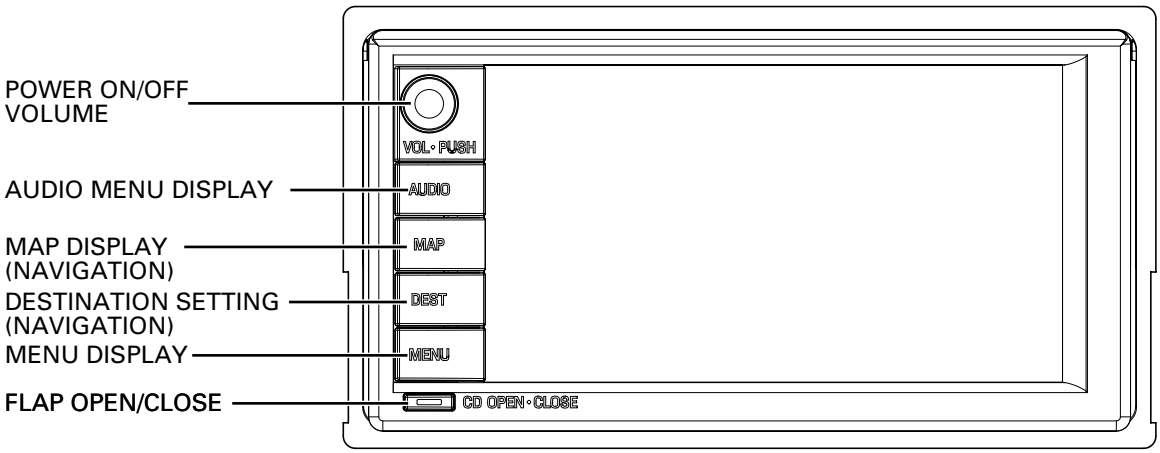
●Set this product to the "Shipment mode" and then disconnect the power supply connector before shipping.

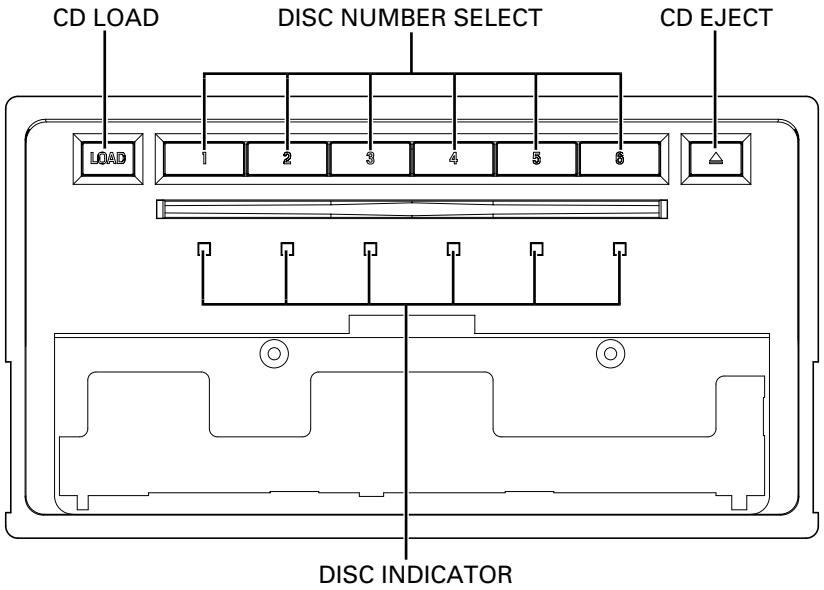
⇩

●Setting the "Shipment mode"
Switch ACC OFF, and then, while simultaneously pressing the "AUDIO" and "DEST" buttons, switch ACC ON.

●Confirming "Shipment mode" setting
When Shipment mode setting is completed, 5 beep sound can be heard from car speaker.

8. OPERATIONS





Pioneer sound.vision.soul

Service Manual

ORDER NO.
CRT2872

CD MECHANISM MODULE

CX-951

- **This service manual describes the operation of the CD mechanism incorporated in models listed in the table below.**
- **When performing repairs use this manual together with the specific manual for model under repair.**

Model No.	Order No.	CD Mechanism Module
FX-MG9127ZT/UC	CRT2903	CXK7110
FX-MG9327ZT/ES	CRT2904	CXK7110
FX-MG9427ZT/ES	CRT2904	CXK7110
FX-MG9527ZT/Q1	CRT2904	CXK7110
FX-MG9327ZT/EW	CRT2905	CXK7110
FX-MG9427ZT/EW	CRT2905	CXK7110
FX-MG9727ZT/UC	CRT2905	CXK7110

CONTENTS

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PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

K-ZZS. JULY 2002 Printed in Japan

1. CIRCUIT DESCRIPTIONS

The LSI (UPD63711GC) used on this unit comprises six main blocks ; the pre-amp section, servo, signal processor, DAC, CD text decoder and LPF. It also equips with nine automatic adjustment functions.

1.1 PRE-AMP SECTION

This section processes the pickup output signals to create the signals for the servo, demodulator and control.

The pickup output signals are I-V converted by the pre-amp with the built-in photo-detector in the pickup, then added by the RF amp to obtain RF, FE, TE, TE zero cross and other signals.

This pre-amp section is built in the servo LSI UPD63711GC (IC201). The following describes function of each section.

Since this system has a single power supply (+5V), the reference voltage for this LSI and pickup are set to REFO (2.5V). The REFO is obtained by passing the REFOUT from the LSI through the buffer amplifier. The REFO is output from Pin 89 of this LSI. All measurements are done using this REFO as reference.

Note : During the measurement, do not try to short the REFO and GND.

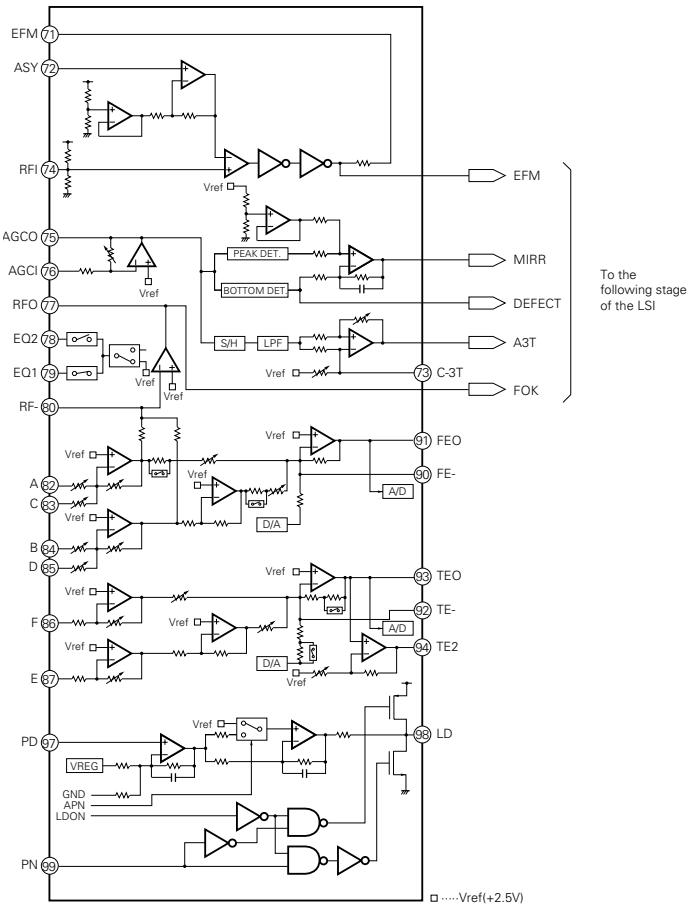


Fig.1 : BLOCK DIAGRAM OF BUILT-IN RF AMPLIFIER

1) APC Circuit (Automatic Power Control)

When the laser diode is driven with constant current, the optical output has large negative temperature characteristics. Thus, the current must be controlled from the monitor diode so that the output may be constant. APC circuit is for it. The LD current is obtained by measuring the voltage between LD1 and V+5. The value of this current is about 35mA.

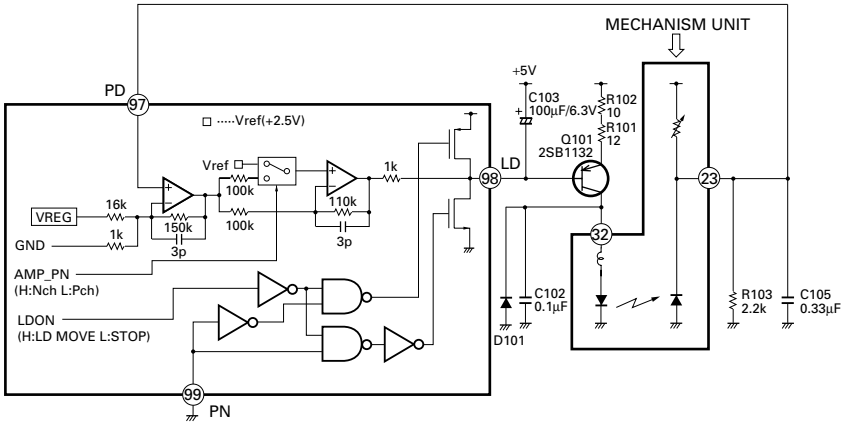


Fig.2 : APC CIRCUIT

2) RF Amplifier and RFAGC Amplifier

The photo-detector outputs (A + C) and (B + D) are added, amplified and equalized on this LSI and then output to the RFI terminal as the RF signal. (The eye pattern can be checked by this signal.)

The RFI voltage low frequency component is :

$$RFI = (A + B + C + D) \times 3.2$$

RFI is used on the FOK generator circuit and RF offset adjusting circuit.

R207 is an offset resistor for maintaining the bottom reference voltage of the RFI signal at 1.5 VDC. The D/A output used for the RF offset adjustment (to be described later) is entered via this resistor.

After the RFI signal from Pin 77 is externally AC coupled, entered to Pin 76 again, then amplified on the RFAGC amplifier to obtain the RFO signal.

The RFAGC adjustment function (to be described later) built-in the LSI is used for switching feedback gain of the RFAGC amplifier so that the RFO output may go to 1.5 ± 0.3Vpp.

The RFO signal is used for the EFM, DFCT, MIRR and RFAGC adjustment circuits.

3) RFOK Circuit

This circuit generates the signal that is used for indicating the timing of closing the focus or state of the focus close currently being played. This signal is output from Pin 4 as the FOK signal. It goes high when the focus close and in-play.

The RFOK signal is generated by holding DC level of the RFI at its peak with the succeeding digital section, then comparing it at a specific threshold level. Thus, the RFOK signal goes high even if the pit is absent. It indicates that the focus close can take place on the disc mirror surface, too.

This signal is also supplied to the micro computer via the low pass filter as the FOK signal and used for the protection and the RF amplifier gain switching.

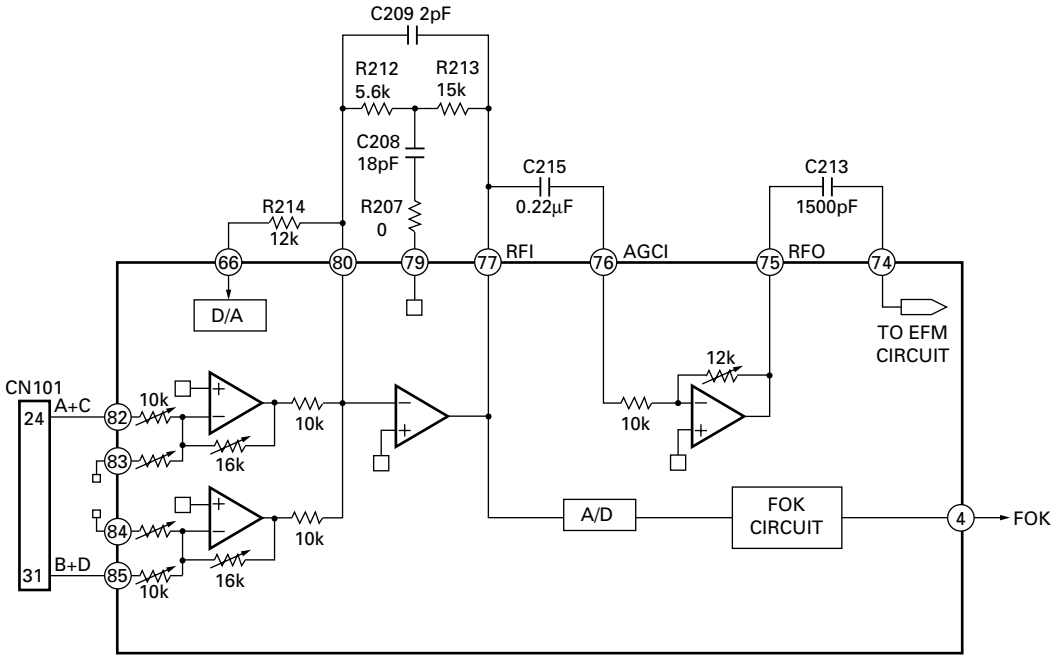


Fig.3 : RFAMP, RFAGC AND FOK CIRCUIT

4) Focus Error Amplifier

The photo-detector outputs (A + C) and (B + D) are passed through a differential amplifier and an error amplifier, and then (A + C – B – D) is output from Pin 91 as the FE signal. The FE voltage low frequency component is :

$$FE = (A + C - B - D) \times \frac{16k}{10k} \times \frac{80k}{(20k + 5k)}$$

$$= (A + C - B - D) \times 5$$

Using REFO as the reference, an S-curve of approximately 1.5 Vpp is obtained for the FE output. The final-stage amplifier cutoff frequency is 11.4 kHz.

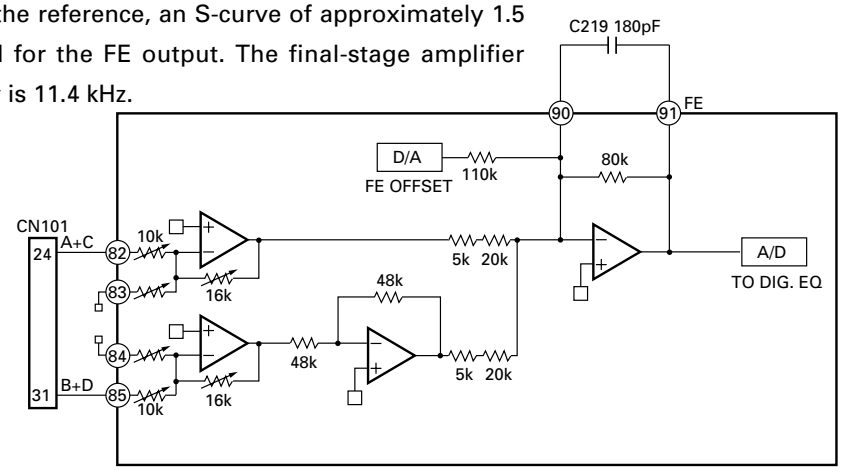


Fig.4 : FOCUS ERROR AMPLIFIER

5) Tracking Error Amplifier

The photo-detector outputs E and F are passed through a differential amplifier and an error amplifier, and then (E – F) is output from Pin 93 as the TE signal. The TE voltage low frequency component is :

$$TE = (E - F) \times \frac{224k}{112k} \times \frac{160k}{48.7k}$$

$$= (E - F) \times 6.6 \text{ (Effective LSI output is 5.0).}$$

Using REFO as the reference, the TE waveform of approximately 1.3 Vpp is obtained for the TE output. The final-stage amplifier cutoff frequency is 20 kHz.

6) Tracking Zero Crossing Amplifier

TEC signal (the tracking zero crossing signal) is obtained by multiplying the TE signal four times. It is used for locating the zero crossing points of the tracking error. The zero cross point detection is done for the following two reasons :

① To count tracks for carriage moves and track jumps.

② To detect the direction in which the lens is moving when the tracking is closed (it is used on the tracking brake circuit to be described later).

The TEC signal frequency range is 300 Hz to 20 kHz.

TEC voltage = TE level × 4

Theoretical TEC level is 5.2V. The signal exceeds D-range of the operational amplifier and thus is clipped. It, however, can be ignored since this signal is used by the servo LSI only at the zero crossing point.

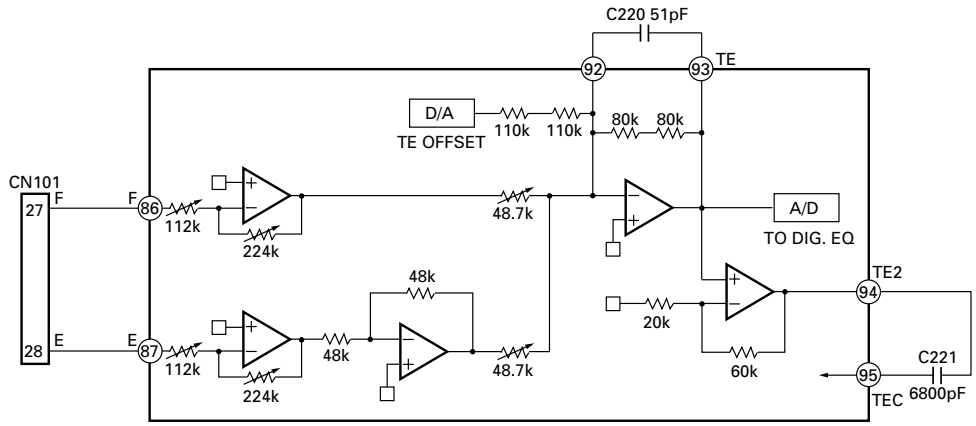


Fig.5 TRACKING ERROR AMPLIFIER AND TRACKING ZERO CROSSING AMPLIFIER

7) DFCT (Defect) Circuit

The DFCT signal is used for detecting defects on the mirrored disc surface. It allows monitoring from the HOLD pin (Pin 2). It goes high when defects are found on the mirrored surface.

The DFCT signal is generated by comparing the RF amplified signal (which is obtained by bottom holding the RFO signal) at a specific threshold level by the succeeding digital section.

Stains or scratches on the disc can constitute the defects on the mirrored disc surface. Thus, as long as the DFCT signal remains high in the LSI, the focus and tracking servo drives are held in the current state so that a better defect prevention may be ensured.

8) 3TOUT Circuit

The 3TOUT signal is generated by entering disturbance to the focus servo loop, comparing phase of fluctuations of the RF signal 3T component against that of the FE signal at that time, then converting the signal to DC level. This signal is used for adjusting bias of the FE signal (to be described later). This signal is not output from the LSI, thus its monitoring is not available.

9) MIRR (Mirror) Circuit

The MIRR signal shows the on track and off track data, and is output from Pin 3.

When the laser beam is

On track : MIRR = "L"

Off track : MIRR = "H"

This signal is used on the brake circuit (to be described later) and also as the trigger to turn on track counting when jumping take place.

The MIRR signal is supplied to the micro computer, too, for the protection purpose.

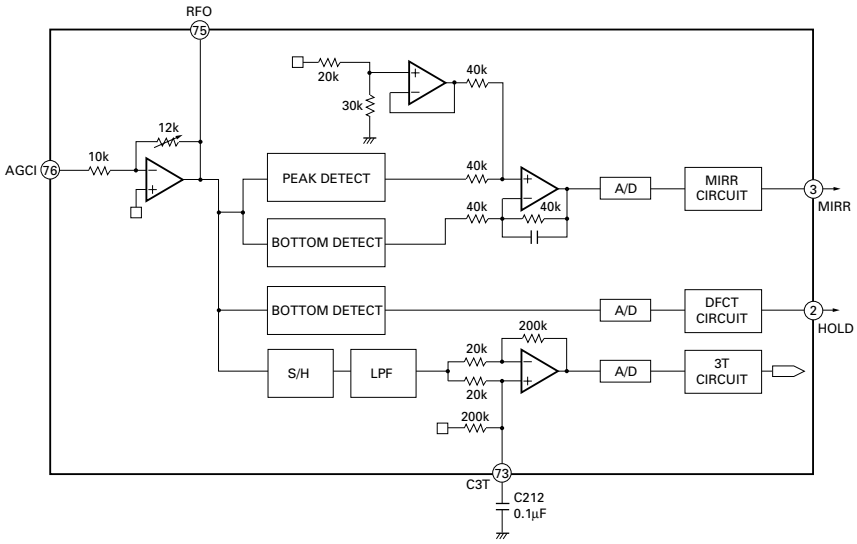


Fig.6 : DFCT, MIRR AND 3T DETECTION CIRCUIT

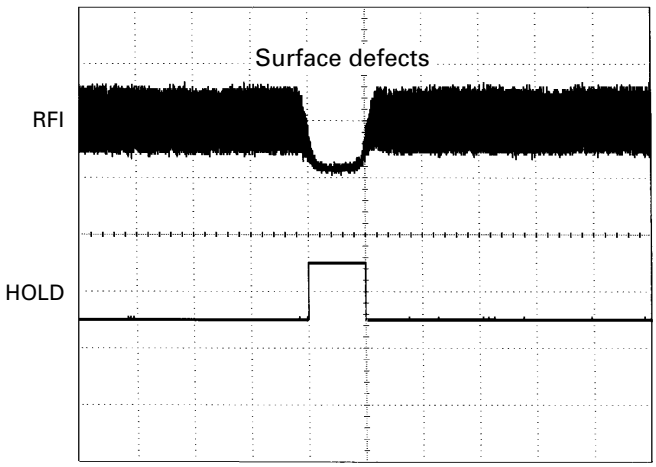


Fig.7 : HOLD OUTPUT WAVEFORM
(When surface defects are present)

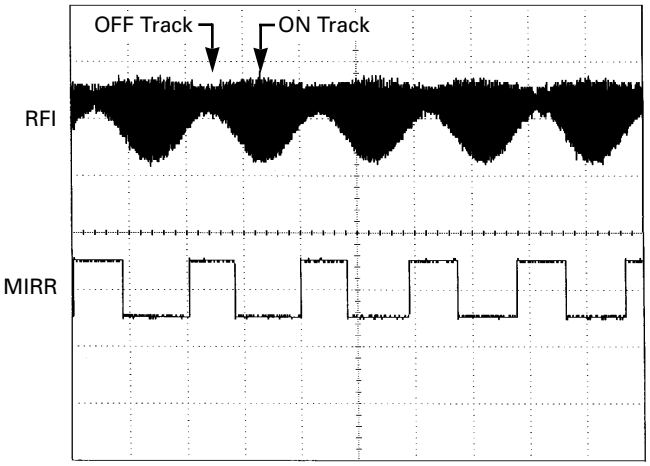


Fig.8 : MIRR OUTPUT WAVEFORM
(When an access is made)

10) EFM Circuit

This circuit is used for converting the RF signal to digital signal consisting of “0” and “1”. The RFO signal from Pin 75 is externally AC coupled, entered to Pin 74, then applied to the EFM circuit.

Loss of the RF signal due to scratches or stains on the disc, or vertical asymmetry of the RF due to variations in the discs manufactured can’t be eliminated by AC coupling alone. This circuit, therefore, controls the reference voltage ASY on the EFM comparator by use of the fact that “0” and “1” appear fifty fifty in the EFM signal. By this arrangement, the comparate level is constantly maintained at almost center of the RFO signal level. The reference voltage ASY is generated when the EFM comparator output is passed through the low pass filter. The EFM signal is output from Pin 71. It is a 2.5 Vp-p amplitude signal centering on REFO.

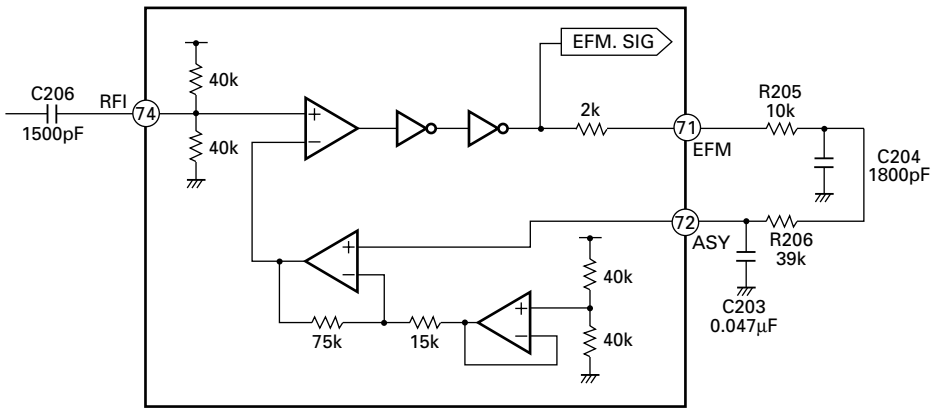


Fig.9 : EFM CIRCUIT

1.2 SERVO SECTION (UPD63711GC : IC201)

The servo section controls the operations such as error signal equalizing, in focus, track jump and carriage move. The DSP is the signal processing section used for data decoding, error correction and interpolation processing, among others.
This circuit implements analog to digital conversion of the FE and TE signals generated on the pre-amplifier, then outputs them through the servo block as the drive signal used on the focus, tracking and carriage system. The EFM signal is decoded on the signal processing section and finally output via the D/A converter as the audio signal. The decoding process also generates the spindle servo error signals which is fed to the spindle servo block to generate the spindle drive signal.
The focus, tracking, carriage and spindle drive signals are then amplified on the driver IC BD7962FM (IC301) and fed to respective actuators and motors.

1) Focus Servo System

The focus servo main equalizer is consisted of the digital equalizer. Fig.10 shows the focus servo block diagram.
When implementing the focus close on the focus servo system, the lens must be brought within the in-focus range. Therefore, the lens is moved up and down according to the triangular focus search voltage to find the focus point. During this time, the spindle motor is kicked and kept rotating as a set speed.
The servo LSI monitors the FE and RFOK signals and automatically carries out the focus close at an appropriate point.
The focus closing is carried out when the following three conditions are met :

① The lens approaches the disc from its current position.
② RFOK = "H"
③ The FZC signal is latched at high after it has once crossed the threshold set on the FZD register (Edge of the FZD).

As the result, the FE (= REFO) is forced to low.

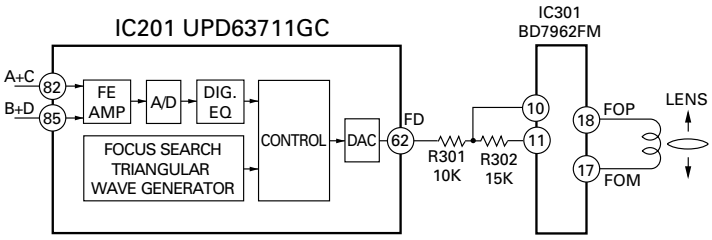


Fig.10 : FOCUS SERVO BLOCK DIAGRAM

When the above conditions are all met and the focus is closed, the XSI pin goes to low from the current high, then 40 ms later, the microcomputer begins to monitor the RFOK signal after it that has been passed through the low pass filter.

When the RFOK signal is recognized as low, the micro computer carries out various actions including protection.

Fig.11 a series of operations carried out relevant to the focus close (the figure shows the case where focus close is not available).

You can check the S-curve, search voltage and actual lens behavior by selecting the Display 01 for the focus mode select in the test mode, and then pressing the focus close button.

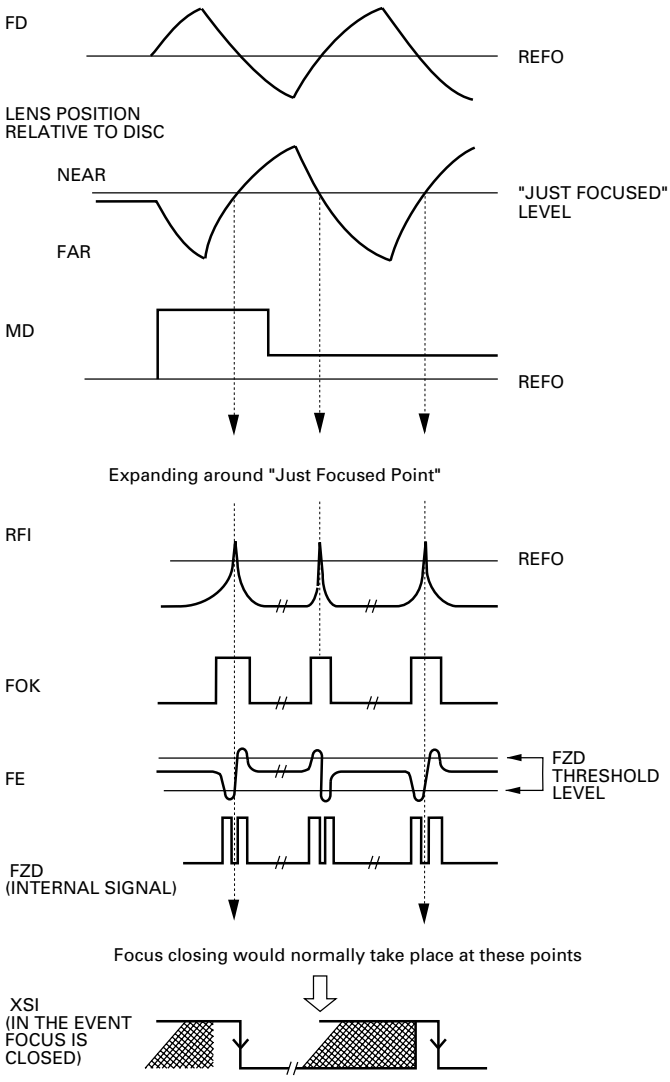


Fig.11 : FOCUS CLOSE SEQUENCE

2) Tracking Servo System

The digital equalizer is employed for the main equalizer on the tracking servo. Fig.12 shows the tracking servo block diagram.

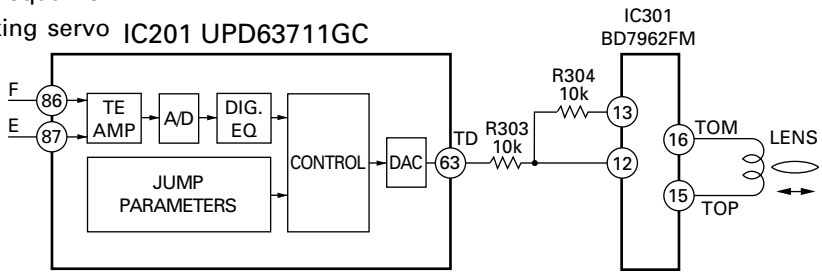


Fig.12 : TRACKING SERVO BLOCK DIAGRAM

a) Track jump

When the LSI receives the track jump command from the microcomputer, the operation is carried out automatically by the auto sequence function of the LSI. This system has five types of track jumps used for the search : 1, 4, 10, 32 and 32 × 3. In the test mode, in addition to three jumps (1, 32 and 32 × 3), move of the carriage can be check by mode selection. For track jumps, the microcomputer sets almost half of tracks (5 tracks for 10 tracks, for instance) and counts the set number of tracks using the TEC signals. When the microcomputer has counted the set number of tracks, it outputs the brake pulse for a fixed period of time (duration can be specified with the command) to stop the lens. In this way, the tracking is closed and normal play is continued.

To improve the servo loop retracting performance just after the track jump, the brake circuit is turned on for 50 ms after the brake pulse has been terminated to increase gain of the tracking servo.

Fast forward and reverse operations are realized by through consecutive signal track jumps. The speed is about 10(or 20) times as fast as that in the normal mode.

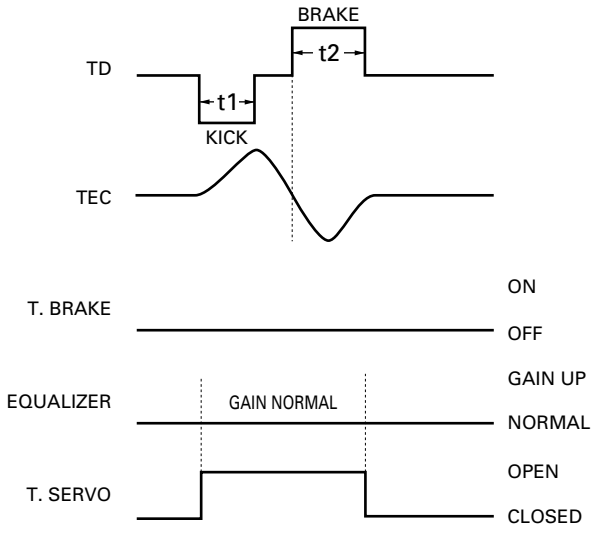


Fig.13 : SINGLE TRACK JUMP

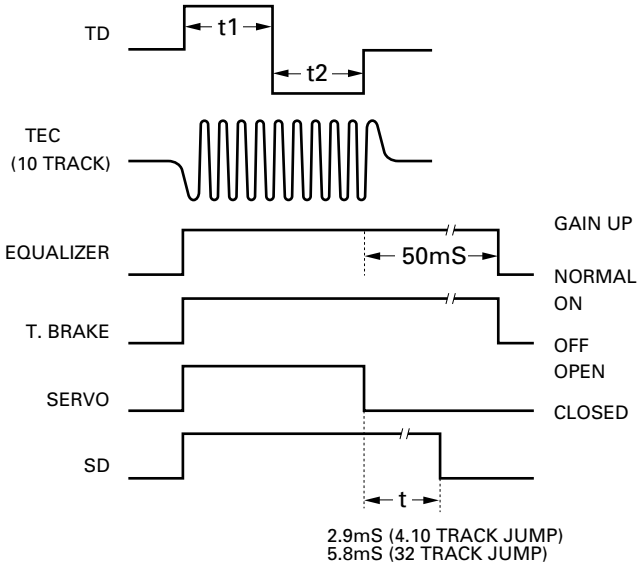
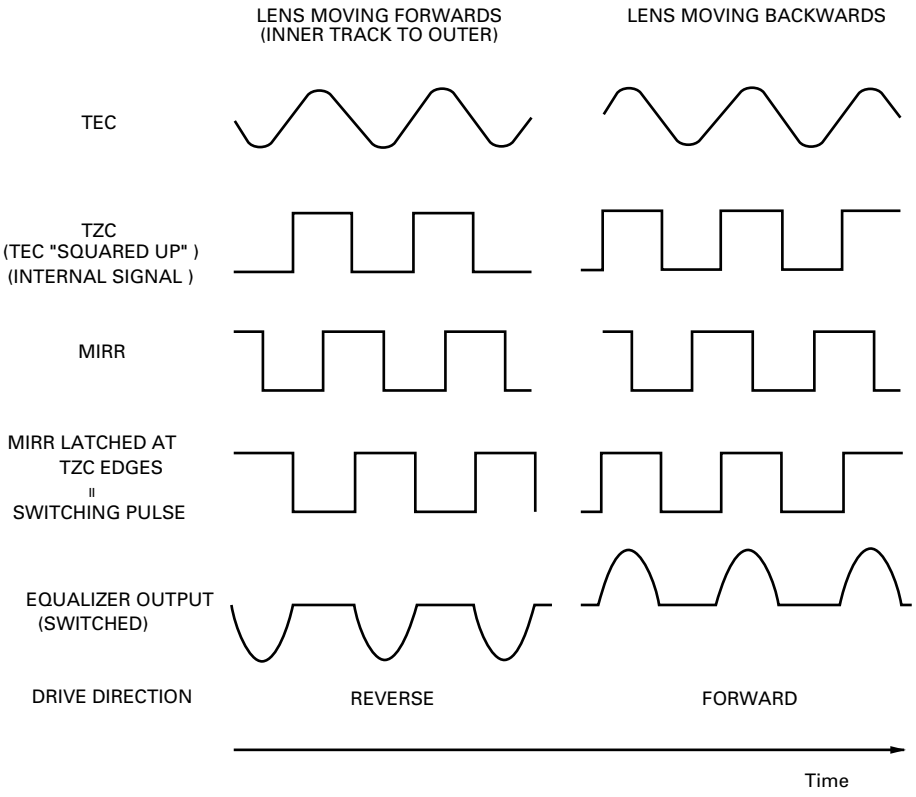


Fig.14 : MULTI-TRACK JUMP

b) Brake Circuit

The servo retracting performance can be deteriorate during the setup or track jump operation. In this connection, the brake circuit is used to ensure steady retract of the tracking servo. The brake circuit detects in which direction the lens is moving, then slows down its move by outputting the drive signal that moves the lens into the opposite direction alone. Track slippage direction is determined by referencing the TEC and MIRR signals and their phase.



Note : Equalizer output assumed to hava same phase as TEC.

Fig.15 : TRACKING BRAKE CIRCUIT

3) Carriage Servo System

The carriage servo supplies the tracking equalizer's low-frequency component (lens position data) output to the carriage equalizer, then, after providing a fixed amount of gain to it, outputs the drive signal from the LSI. This signal is then applied to the carriage motor via the driver IC.

When the lens offset reaches a certain level during play, the entire pickup must be moved into the forward direction. Therefore, the equalizer gain is set to the level that allows to generate a voltage higher than the carriage motor starting voltage. In actual operations, a certain threshold level is set for the equalizer output by the servo LSI so that the drive voltage may be output from the servo LSI only when the equalizer output exceeds the threshold level. This arrangement helps reducing power consumption. Also, due to disc eccentricity or other factors, the equalizer output may cross the threshold level a number of times. In this case, the drive voltage output from the LSI will have pulse-like waveform.

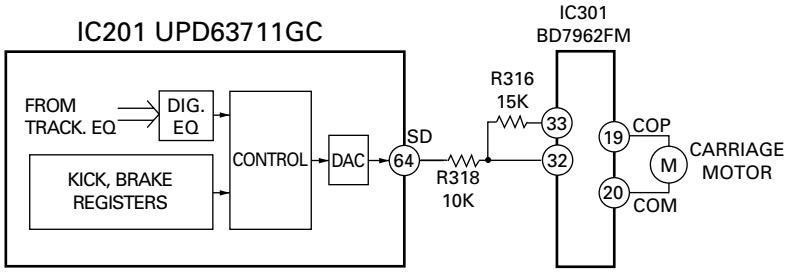


Fig.16 : CARRIAGE SERVO BLOCK DIAGRAM

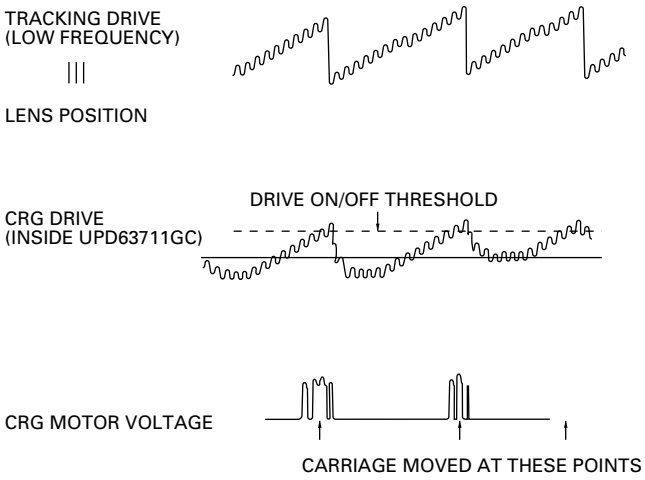


Fig.17 : CARRIAGE SIGNAL WAVEFORM

4) Spindle Servo System

1. Simple FG servo:

This servo is to keep the disc rotation stable around the appropriate speed.

The microcomputer monitors the FG signal, which generates pulses depending on the spindle motor rotation, to control the spindle motor drive voltage.

This mode is used under the following conditions:

a) At setup, for the period from power on, focus close to rough servo mode.

b) After focus is unlocked during play and until it is locked again.

2. Applicable servo :

The CLV servo mode is turned on for the normal operations.

In the EFM demodulation block, the frame sync signal and internal counter output signal are sampled for every WFCK/16 and a signal is produced for indicating whether or not they are matching.

They are determined to be asynchronous only when this signal fails to match 8 times in succession. In all other cases, above two signals are assumed to be synchronous. In the applicable servo mode, the retracting servo is automatically selected if the two signals are synchronous. If not, the regular servo is automatically selected.

3. Brake:

This mode is to stop the spindle motor.

The microcomputer monitors the FG pulse signal. When the FG pulse interval (speed) exceeds the prescribed level, the full brake mode is selected. When the speed slows down to that level or lower, the brake level is decreased. At last the spindle motor is stopped.

4. Stop :

This mode is used for powering on the system and the eject operation. When this mode is turned on, voltage across the spindle motor is 0V.

5. Rough servo :

This mode is used for when the carriage feed (carriage mode for the long search, etc.) is turned on. The linear speed is calculated from the EFM waveform and high or low level is entered to the spindle equalizer. In the test mode, this mode is also used for the grating check.

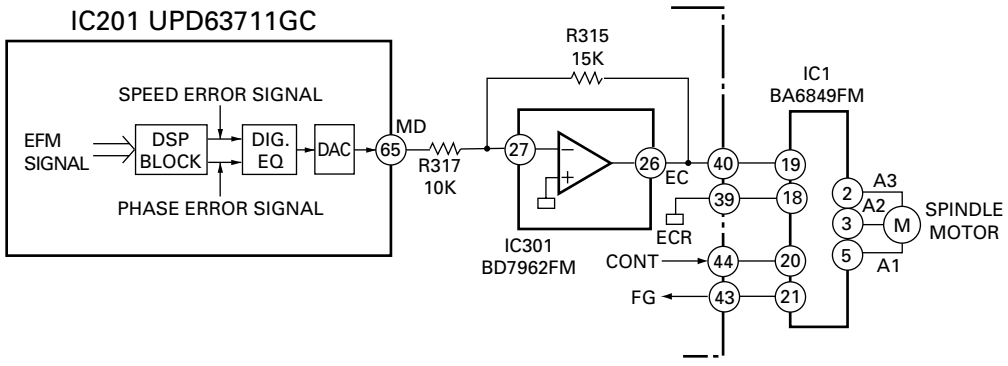


Fig.18 : SPINDLE SERVO MOTOR BLOCK DIAGRAM

1.3 AUTOMATIC ADJUSTMENT FUNC- TIONS

Every circuit adjustment on the CD-LSI of this system is automated.
Every circuit adjustment is automatically implemented when the disc is inserted or the CD mode is selected from the source key. The following describes how the adjustments are executed.

1) FZD Cancel Setting

This setting is used for executing the focus close operation without fail.
When power is turned on, the FE offset level is read and a voltage opposite to this offset value is written to the CRAM on the IC to cancel the offset. In this manner, the FZD threshold level can be set to a constant value (+240mV), thereby ensuring to meet one of the requirements for the IC to execute the focus close that "the FZD signal is latched at high".

2) Automatic Adjustment of TE, FE and RF Offset

Using REFO as the reference, this function adjusts the pre-amp TE, FE and RF offsets to the respective target value when power is turned on (targets values of the TE, FE and RF are 0, 0 and –1V, respectively).
The following is the adjustment procedure :

(1) Respective offset (LD off) is read by the microcomputer via the servo LSI.
(2) The microcomputer calculates the voltages to be corrected from the read values, then sets them to the specified field.

3) Automatic Adjustment of Tracking Balance (T. BAL)

This adjustment is used for eliminating differences between the pickup E and F channels outputs by adjusting gain of the amplifier on the LSI. In the actual operation, the TE waveform is adjusted so that it may be vertically symmetric with REFO.
The following is the adjustment procedure :

(1) Make sure the focus close is complete.
(2) Kick the lens in the radial direction to generate the TE waveform.
(3) At this time, the microcomputer reads the TE signal offset value (via the servo LSI) being calculated by the LSI.
(4) The microcomputer determines if the read offset value is positive, negative or zero.
If the offset value = 0, the adjustment is terminated.
If the offset value = A positive or negative value, gain of the E and F channels amplifiers are modified according the predetermined rule.

Then above steps (2) through (4) are repeated until the "Offset value = 0" or "Specified limit count" is reached.

4) Automatic Adjustment of FE Bias

This adjustment is intended at maximizing the RFI level by optimizing the focus point in-play. This adjustment utilizes the phase difference between the RF waveform 3T level and the focus error signal when disturbance is applied.
Since disturbance is applied to the focus loop, this adjustment is designed to take place in the same timing as the auto gain control (to be described later).
The following is the adjustment procedure :

(1) Disturbance is injected to the focus loop by the command from the microcomputer (within the servo LSI).
(2) The LSI detects fluctuation of the RF signal 3T component level.
(3) The LSI determines relationship between fluctuation of the 3T component and the injected disturbance to detect magnitude and direction of the off-focus introduced.
(4) The microcomputer reads the detected results from the LSI.
(5) The microcomputer calculates necessary correction, then hands the calculated value to the bias adjustment term set on the LSI.

This adjustment is repeated several times, as it is so with the auto gain control, to ensure higher accuracy.

5) Focus and Tracking Automatic Gain Control

This function is used for implementing automatic control of the focus and tracking loop gain.

The following is the adjustment procedure :

(1) Inject disturbance to the servo loop.

(2) Extract the error signal (FE and TE) generated at when the disturbance is applied to obtain the signals G1 and G2 via the B.P.F.

(3) The microcomputer reads the G1 and G2 signals via the LSI.

(4) Based on the necessary correction calculated by the microcomputer, the LSI performs the loop gain adjustment.

Above adjustments are repeated several times to ensure higher adjustment accuracy.

6) Automatic RF Level Adjustment (RFAGC)

This adjustment is used for implementing intended signal transmission successfully by adjusting unevenness of the RF signal (RFO) levels, that results from disc and machine relevant factors, to a target value. The adjustment is actually done by varying gain of the amplifier provided between the RFI and RFO.

The following is the adjustment procedure :

(1) Using the command, the microcomputer reads the output from the RF level detection circuit on the servo LSI.

(2) Based on the read value, the microcomputer calculates an amplifier gain that will produce the target RFO level.

(3) The microcomputer sends the corresponding command to the servo LSI so that the above gain value may be set.

This adjustment takes place at the following timing :

- When the focus close alone is completed during the setup process.
- Just before the setup is completed (just before the play takes place).
- After the off-focus has been corrected during the play.

7) Adjustment of Pre-Amp Stage Gain

It is used for adjusting the entire RFAMP (FE, TE and RF amplifiers) to +6dB or +12dB depending on given gain level when reflected light from the disc is significantly below the required level due to stained lens. This phenomena can be noticed when playing back the CD-RW.

The following is the adjustment procedure :

When reflected light from disc is judged to be significantly below the required level during the setup, set the entire RFAMP to +6dB or +12dB. In this case, if the gain is modified, the setup have to be repeated from the first step.

Through the adjustment, if you judged the play becomes available by setting the entire RFAMP to +6dB, +6dB should be selected for the setup next time on.

See the figure below :

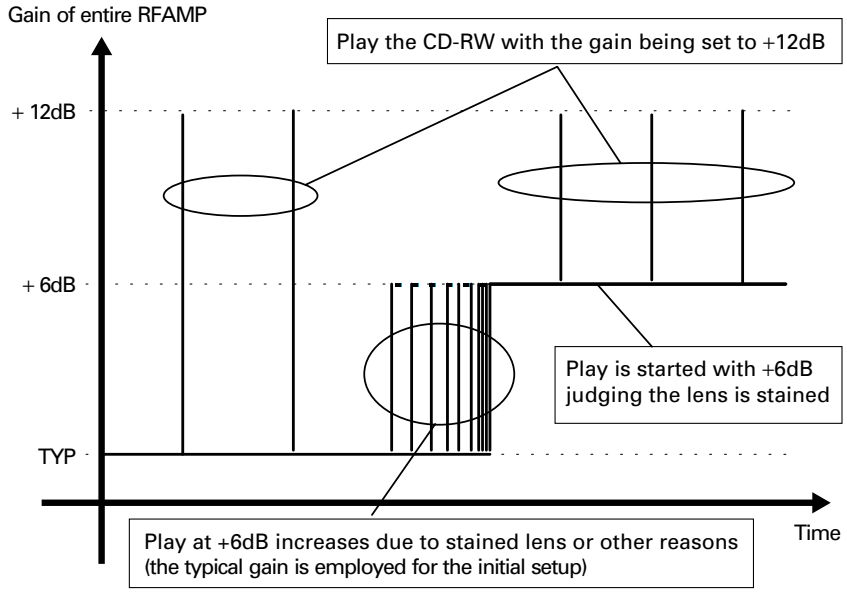


Fig.19 : CONCEPTUAL DIAGRAM OF PRE-AMP GAIN ADJUSTMENT

8) Initial Adjusting Values

All the automatic adjustments are implemented using the previous adjustment values as the initial values unless the microcomputer power (the backup power) is not turned off (though there are some exceptions).
When the backup is turned off, automatic adjustment is executed based on the initial values rather than the previous adjustment values.

9) Displaying Coefficients After Adjustment

You can display and check results of some automatic adjustments (FE and RF offset, FZD cancel and F / T / RFAGC) from the test mode. The following coefficients are displayed in each automatic adjustment :

(1) FE and RF offset and FZD cancel

Reference value = 32 (The coefficient of 32 indicates that no adjustment was required).

The results are displayed in multiples of approximately 40 mV.

An example : When FZD cancel coefficient = 35

35 − 32 = 3

3 × 40 mV = 120 mV

Since the corrected value is approximately +120 mV, the FE offset before adjustment was −120 mV.

(2) F and T gain adjustment

Reference value = Focus/Tracking = 20

A coefficient displayed indicates an amount of adjustment conducted on the reference value.

An example : When AGC coefficient = 40

40/20 = Overall gain has bee doubled (+6dB). (The original loop gain of 1/2 has been doubled to have the targeted overall gain.)

(3) RF level adjustment (RFAGC)

Reference value = 8

Coefficient = 9 to 15 ····· The direction in which the RF level is increased (the gain is increased).

Coefficient = 7 to 0 ····· The direction in which the RF level is decreased (the gain is decreased).

Incrementing or decreasing the coefficient by "1" varies the gain by 0.7 to 1dB.

Maximum gain = Typically +6.5dB. Coefficient at this time is 15.

Minimum gain = Typically −6.0dB. Coefficient at this time is 0.

1.4 POWER SUPPLY

The G2 core unit requires the following two lines of external power supply:

[VD 9V]

This is the power supply for mechanical servos. It is applied directly to the driver and used to generate 5V and 3.3V inside the regulator.

[VDD 5V]

This is the power supply for the microcomputer. It is supplied from the main unit when the backup (+B) is connected. The pull-up resistor is connected to SWDVDD, which is obtained through the VDD switching circuit.

There are two GND lines. One is the GND for the servo and digital power supply, and the other is the audio reference AGND. They are produced by separation inside the core unit.

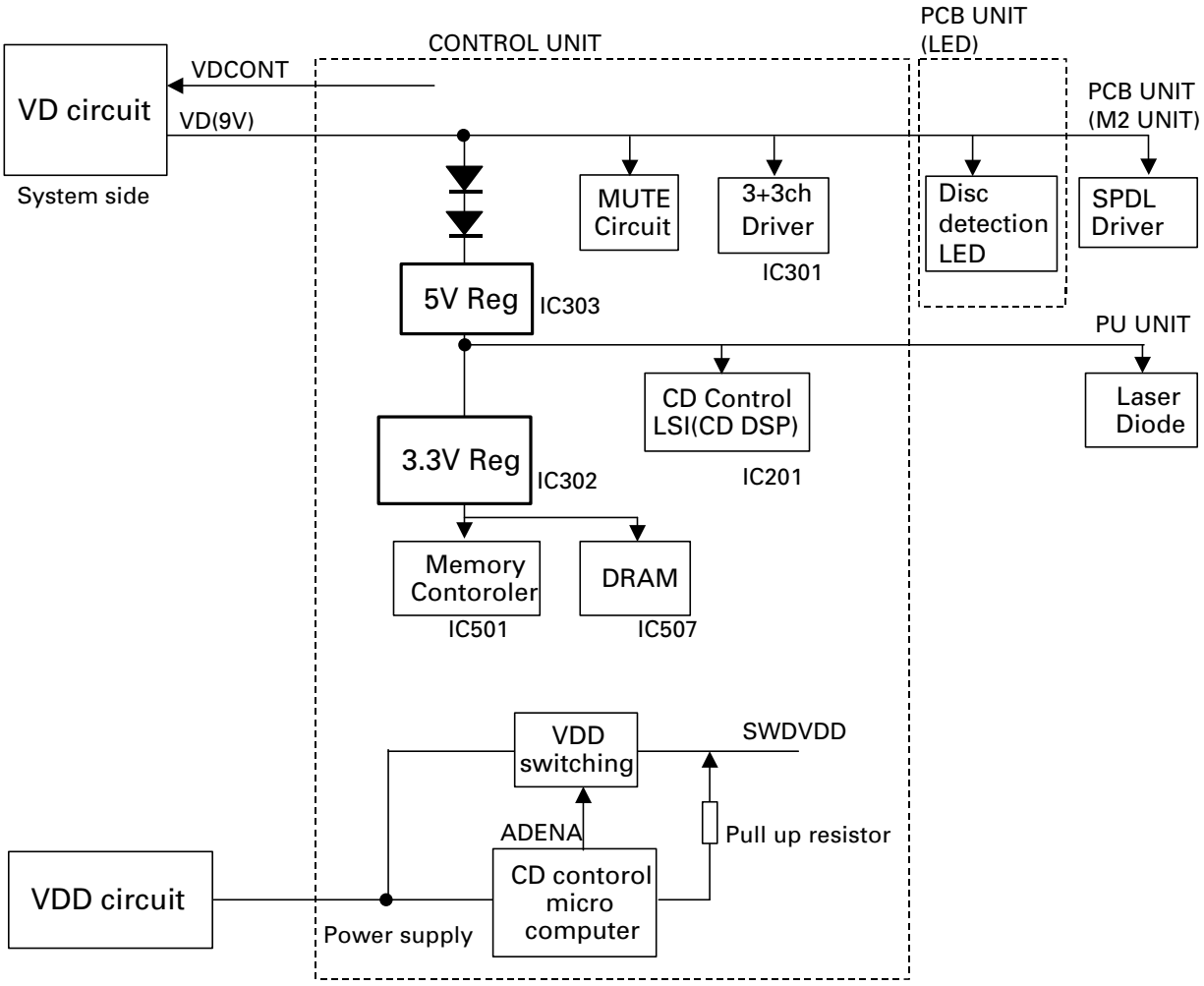
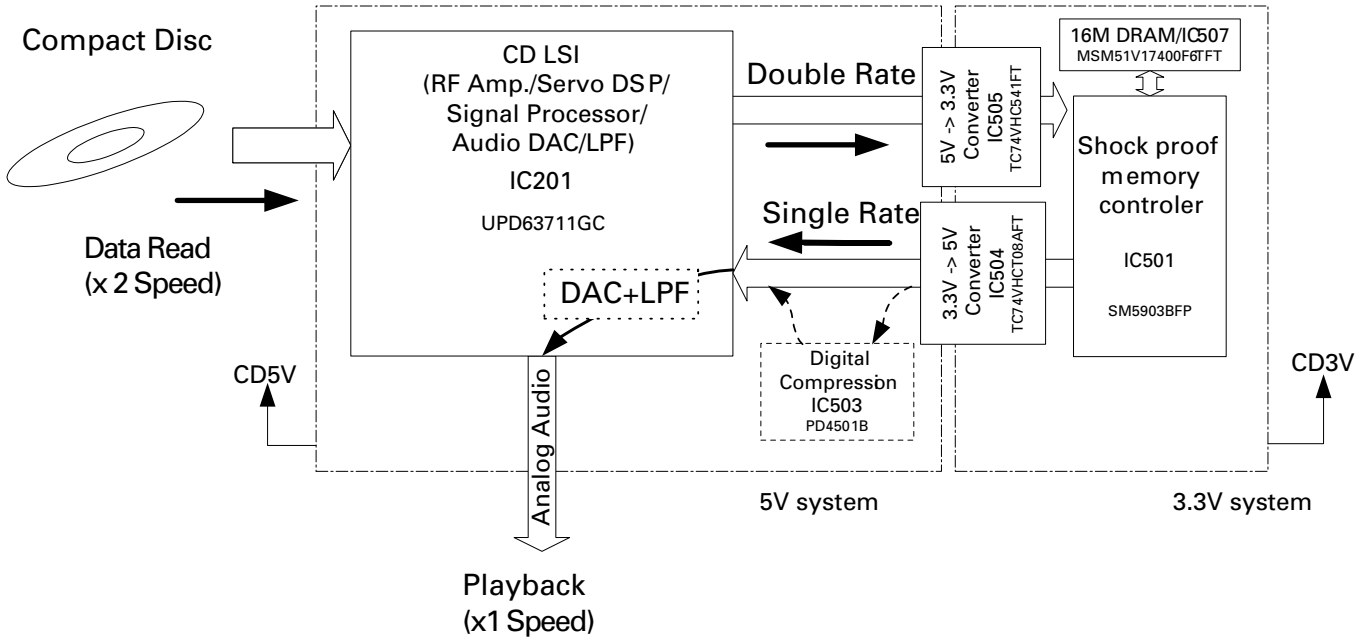


Fig.20 : POWER SUPPLY SECTION

1.5 STS CIRCUIT

Sure Track System (STS) circuit temporarily keeps the audio data read out from a CD in the memory. If the pickup should come off the track, the data recorded in the memory may be output and reproduced. This could help avoid intermittent sound.



Operating principles

The STS circuit is controlled by the shockproof memory controller (SM5903BFP). The audio signal is read out from a CD at X2 speed, demodulated in the CD LSI, and supplied to the shockproof memory controller. This memory controller temporarily memorizes the audio data in the DRAM, reads out the data, and outputs to the DAC at X1 speed using the master clock (MCK: 16.93MHz), which is supplied from the CD LSI, as the reference clock.

The written speed is higher than the DRAM read-out speed. When the DRAM memory becomes full, the controller stops writing the data like in the pause mode, but continues reading out the recorded data from the memory. When some vacant area appears in the memory, the controller starts writing the data again. (The RAM remaining memory is monitored at the STSMO terminal.)

Repeated operations of the above process have realized efficient use of the DRAM and about 10.7-second data memorization. Therefore, even when the pickup should remain on the off-track state for 10 seconds due to external shocks, this STS circuit will reproduce the audio data without intermittent sound.

1.6 Mechanism control section

Outline

The movement of the changer mechanism module is realized by sophisticated combinations of the LOAD/EJECT, ELEVATION, CAMGEAR motor (in the operation mode), and SPDL CLAMP operations.

1) Loading

1.1) Detection control

This mechanism module employs the following three detection systems:

Function	Sensor	Descriptions
LOAD/EJECT detection	Phototransistors (Q1, Q22) and LEDs (D31, D32)	To watch the starting of loading and disc ejection
12-cm disc detection	Two switches (S21, 22)	To sense the disc size
Loading completion	One switch (S41)	

1.2) Drive control

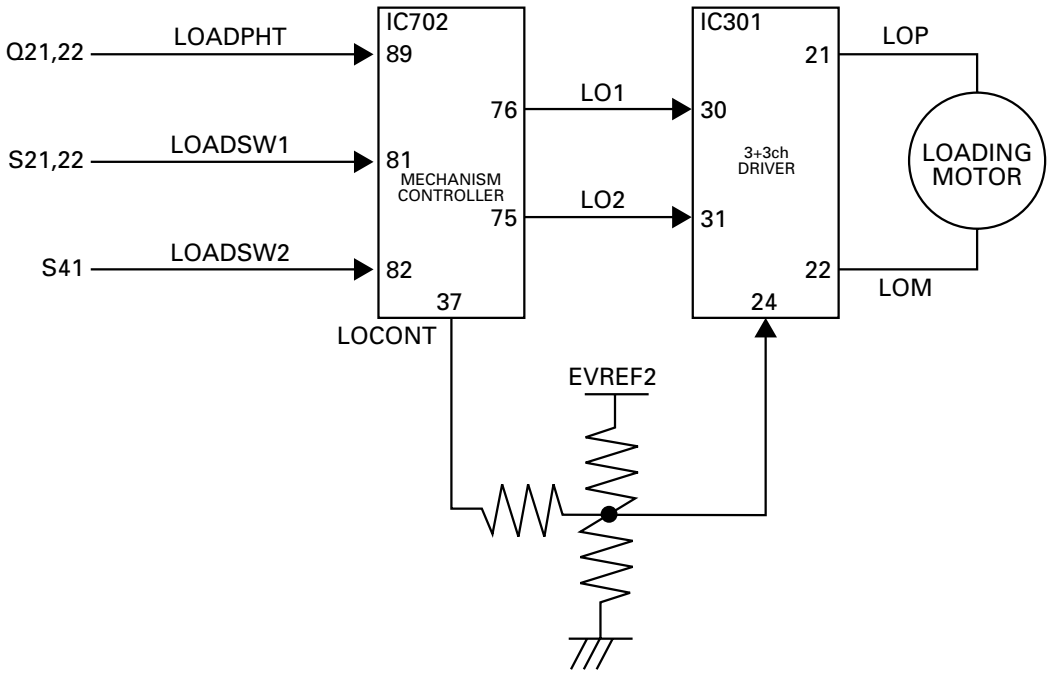
The control unit controls the loading motor to load and eject a disc.

a. Drive circuit

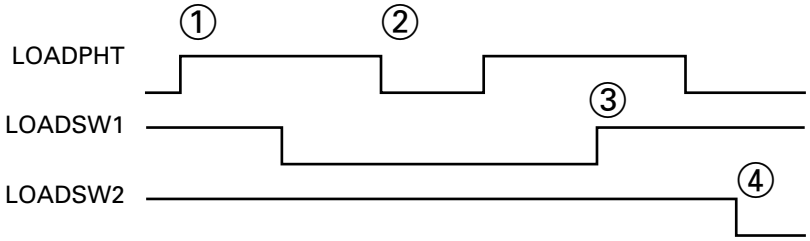
The drive circuit controls the driving direction and the two drive voltages by using the LO1 and LO2, and the LOCONT (H/L) respectively, which are output from the microcomputer (IC702).

In the loading mode: LOP<LOM, LO1; L, LO2; H
In the ejection mode: LOP>LOM, LO1; H, LO2; L

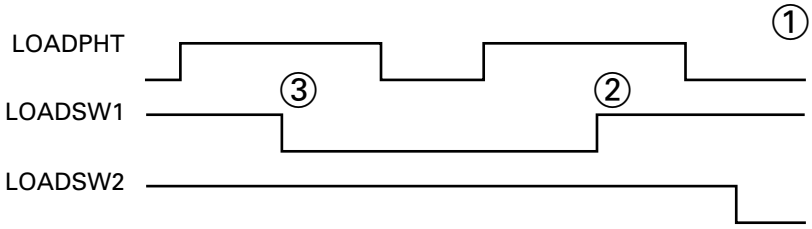
Drive voltages (LOCONT ; H) ; 6.5V
(LOCONT ; L) ; 4.4V



b. Drive control sequence
In the loading:
① When the LOADPHT is turned ON (H), the drive operation starts.
④ When the ON state of the LOADSW2 is sensed, the loading motor stops.

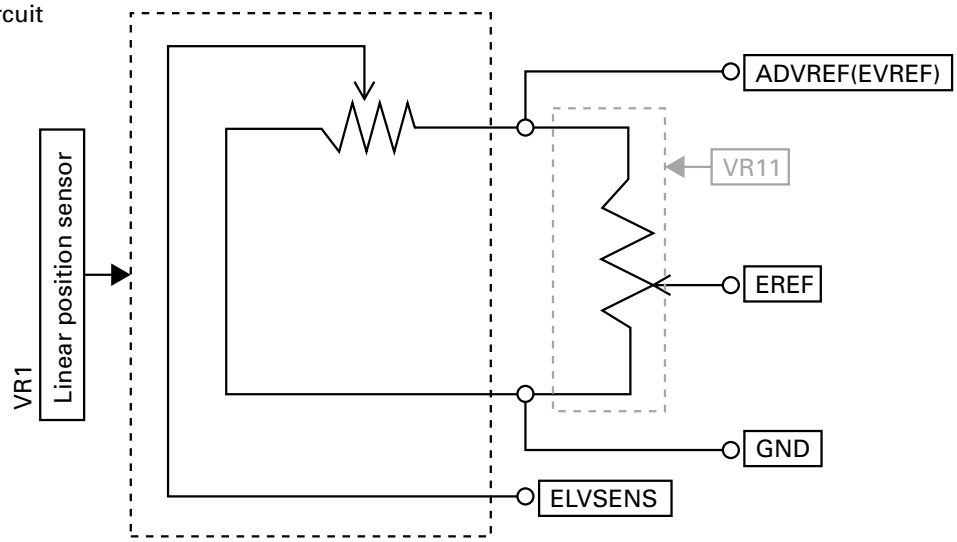


In the ejection mode:
After the loading motor starts moving ①, the OFF state of the LOADSW1 is sensed ③, then the loading motor stops 16msec after the counterelectromotive brake is applied.



2) Elevation
2.1) Detection control
By using the linear position sensor (VR1), the data on the height of the stage chassis is obtained and converted in voltage, then applied to the A/D converter in the microcomputer to detect the absolute position.

Detection circuit



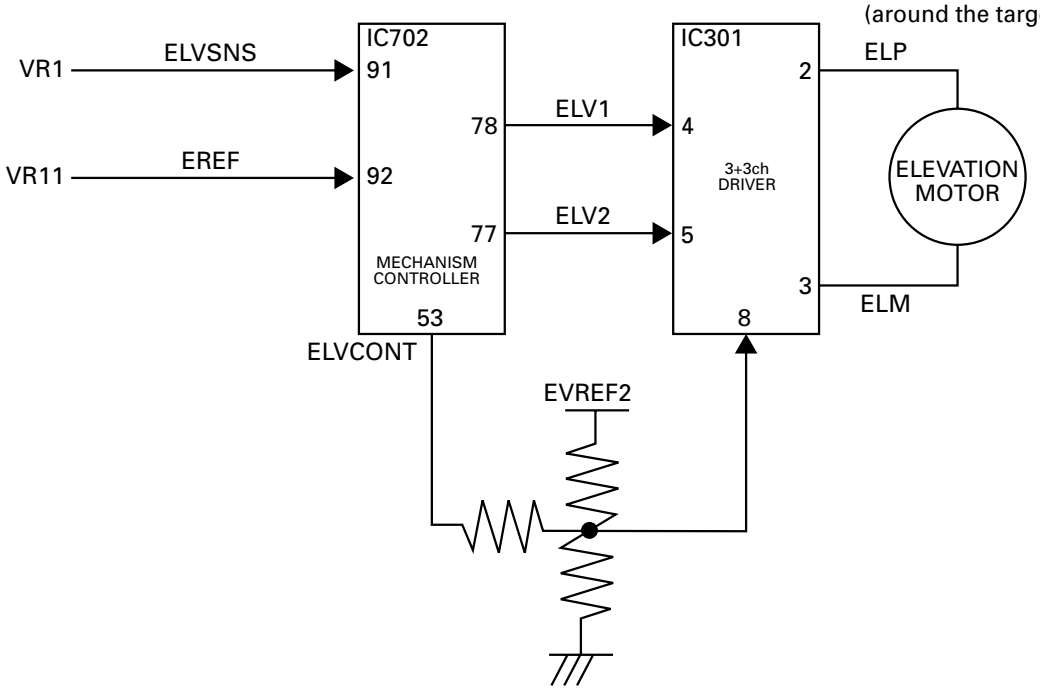
2.2) Drive control
The control unit controls the ELV motor to perform the following operations:
• To open and close the shutter
• To open and close the tray claws (in the loading mode)
• Elevation
• To open the shutter (option)

a. Drive circuit

The drive circuit controls the driving direction and the two drive voltages by using the ELV1 and ELV2, and the ELVCONT (H/L) respectively, which are output from the microcomputer (IC702).

To drive in the UP direction:ELP<ELM, ELV1; H, ELV2; L
To drive in the DOWN direction:
ELP>ELM, ELV1; L, ELV2; H

Drive voltages
(LOCONT: H) 7.4V --- Used in the continuous driving mode
(LOCONT: L) 6.3V --- Used in the pulse drive mode
(around the targetposition)



b. Drive control sequence

(1) The continuous driving mode is kept until the brake starting position.
(2) When it is sensed that the brake starting position is passed, the short brake starts.
(3) The pulse drive operation starts to move the stage toward the OK range. When the stage comes into the OK range and chatter is checked, the operation ends.

3) CAM motor

3.1) Detection control

The three switches CAMEOK (S32), CAMLOAD (S31) and CAMCLMP (S11) detect the following four positions where the CAM operation needs to stop: EOK: Tray changing allowable position LIFT: Load/eject allowable position CLMP: The allowable position to change the used claws from the TRAY claws to the SPDL claws PLAY: PLAY allowable position.

3.2) Drive control

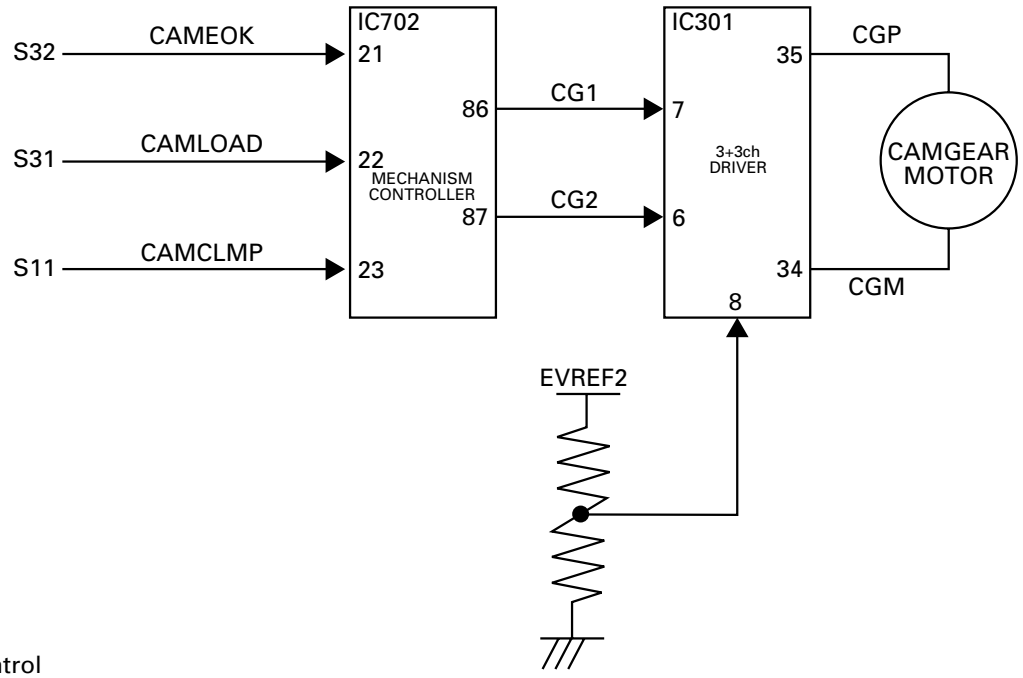
The control unit controls the CAM motor to perform the following operations:

- Trays separation
- CRG chassis rotation (to move to the PLAY position)
- Mechanical lock release
- Tray claws (for disc clamp) open/close (in the PLAY mode)

a. Drive circuit

The drive circuit controls the driving direction by using the CG1 and CG2, which are output from the microcomputer (IC702).

To move the CRG chassis in the outer direction:
CGP<CGM, CG1; H, CG2; L
To move the CRG chassis in the inner direction:
CGP>CGM, CG1; L, CG2; H
Drive voltage: 7.4V fixed



4) SPDL clamp

4.1) Detection control

In the detection circuit, the following two switches are used:

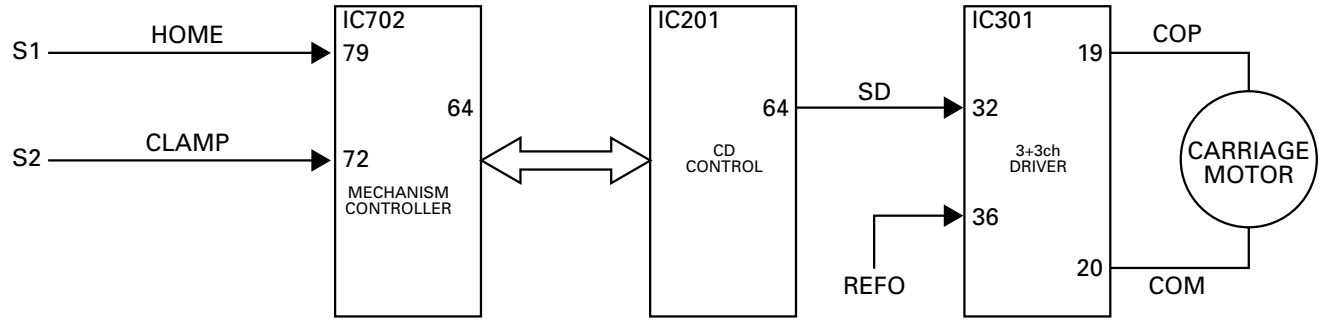
HOME switch (S1) for the servos

CLAMP switch (S2) for claw closing confirmation

4.2) Drive control

The drive circuit moves the CRG toward inner tracks than those for the normal play, and operates the disc clamp mechanism.

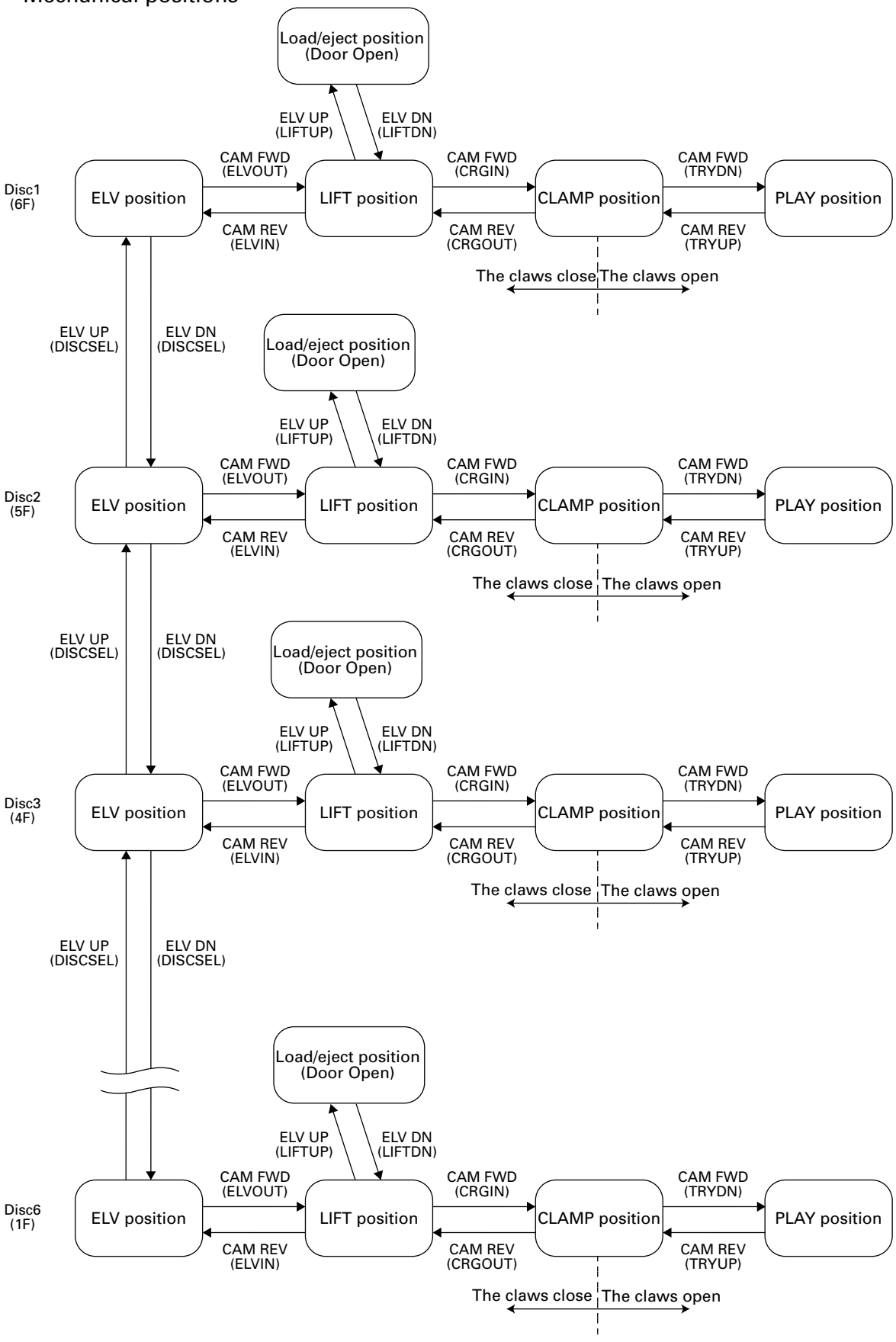
Drive circuit



Claw open (close) drive voltage: 5.0V

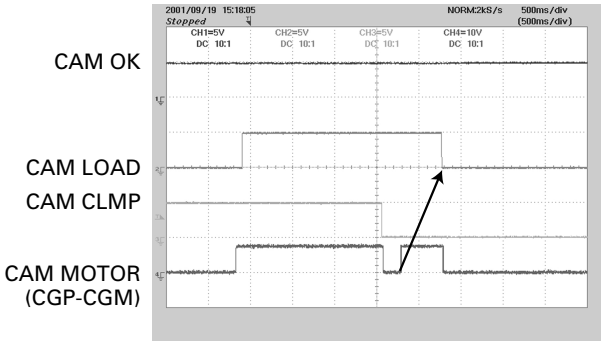
Retry drive voltage: 7.0V

Mechanical positions

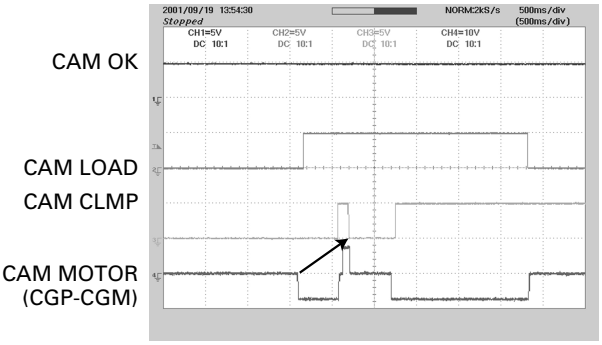


CAM operation

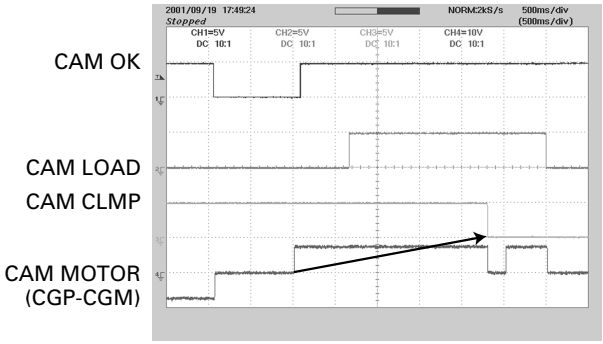
TRYDN
(From CLMP position to PLAY position or CAMLOAD ON)



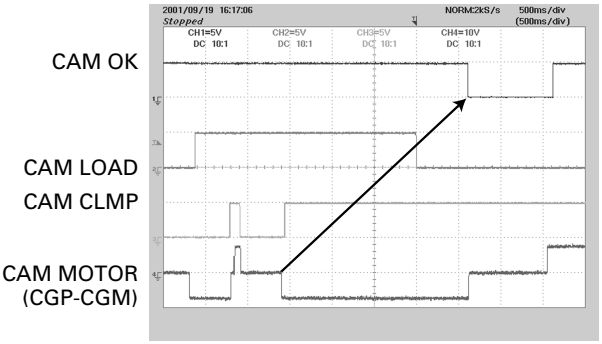
TRYUP
(From PLAY position to CLMP position or CAMCLMP OFF to ON)



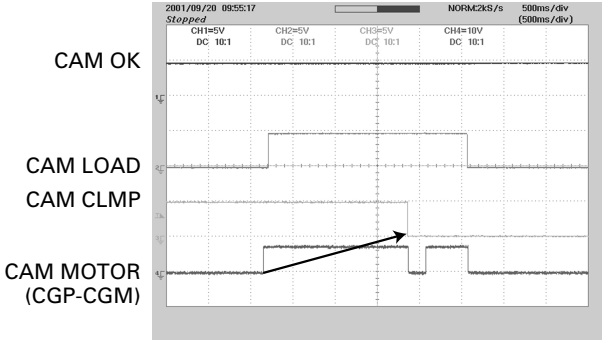
CIN_EXP
(From EOK position to CLMP position or CAMCLMP ON)



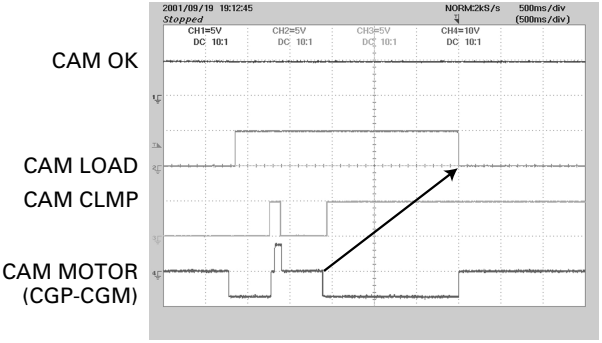
EIN-EXP
(From CLMP position to EOK position or CAMEOK ON)



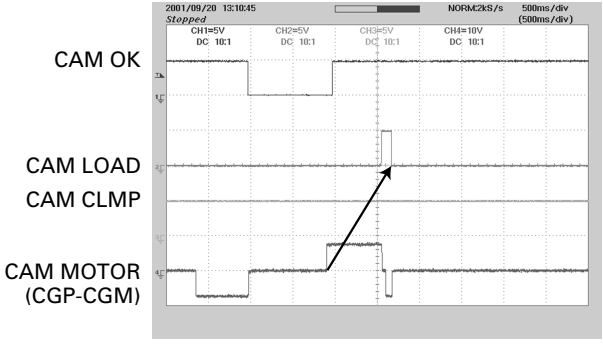
CRGIN
(From LIFT position to CLMP position or CAMCLMP ON)



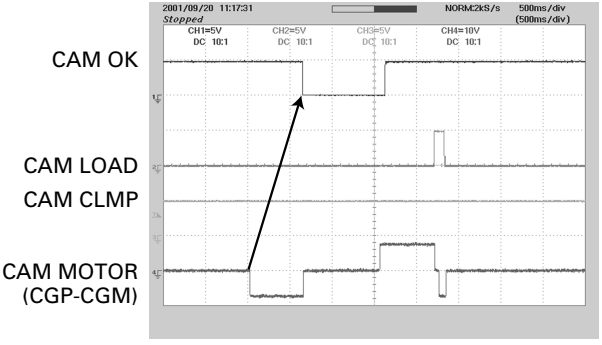
CRGOUT
(From CLMP position to LIFT position or CAMLOAD ON)



ELVOUT
(From EOK position to LIFT position or CAMLOAD OFF to ON)

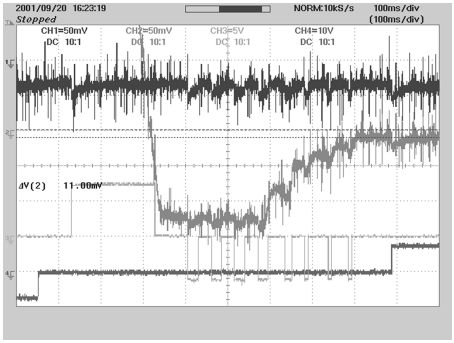


ELVIN
(From LIFT position to EOK position or CAMEOK ON)



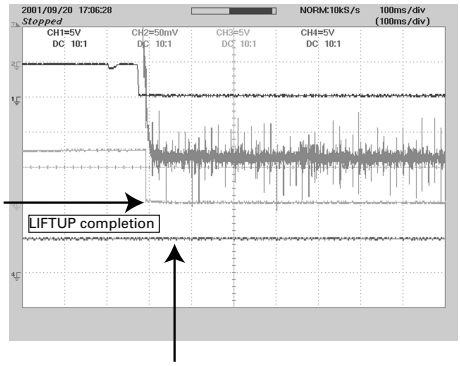
ELV operation

DISCSEL

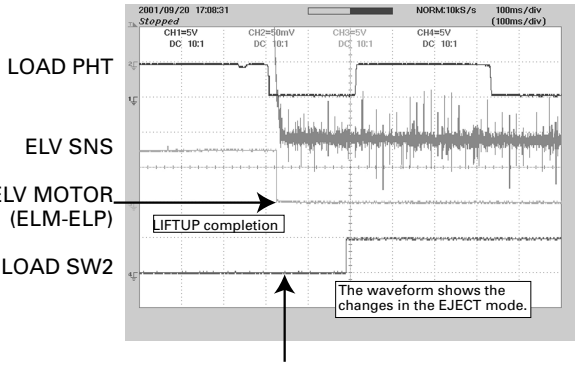


LIFTUP

DISC LOAD (with no disc loaded in a tray)



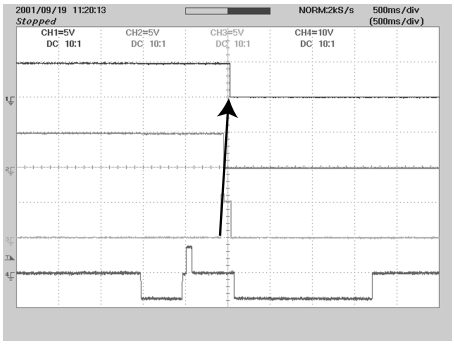
for DISC EJCT(with a disc loaded in a tray)



CLAMP operation

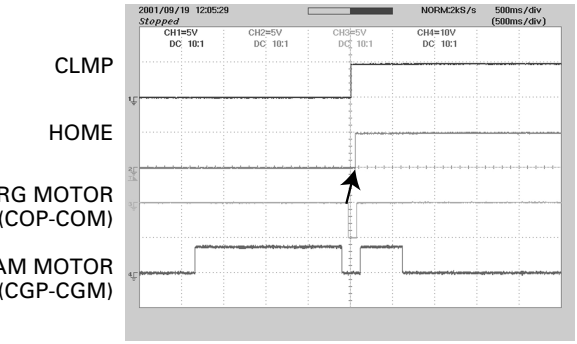
DSKFREE

Until CLMP ON (The drive voltage drops with HOME ON.)



DSKLOCK

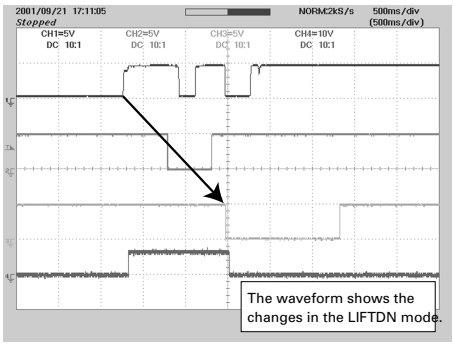
Until HOME OFF



LOAD/EJECT operation

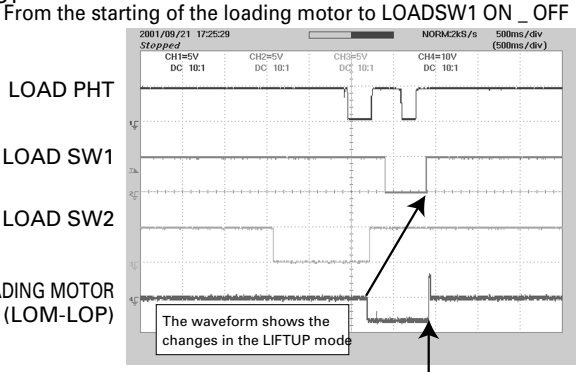
LOAD

From LOADPHT H (disc insertion starts) to LOADSW2 ON



EJCT

From the starting of the loading motor to LOADSW1 ON _ OFF



2. MECHANISM DESCRIPTIONS

1) Initialization

When the power is turned on, the mechanism starts the initializing operation to check on which trays a disc is loaded.

<Initialization operations> (From the transport position)

• The tray holder lock is reset.

• During elevation, it is sensed if or not a disc is loaded on each of the trays from DISC #6 (1F) to DISC #1 in turn with the LOAD3 switch (S41: Load completion SW). (On the whole product, the DISC #1 button is used to select the uppermost floor (6F) tray, which is different from that for the G1-series mechanism.)

• When the above disc sense ends, elevation starts to clamp a disc. If there is no tray with a disc loaded, the mechanism will not proceed to the elevation mode for the disc clamp operation.

• To clamp the loaded disc, the cam gear motor rotates to move the carriage mechanism. (It is the same with no disc loaded.)

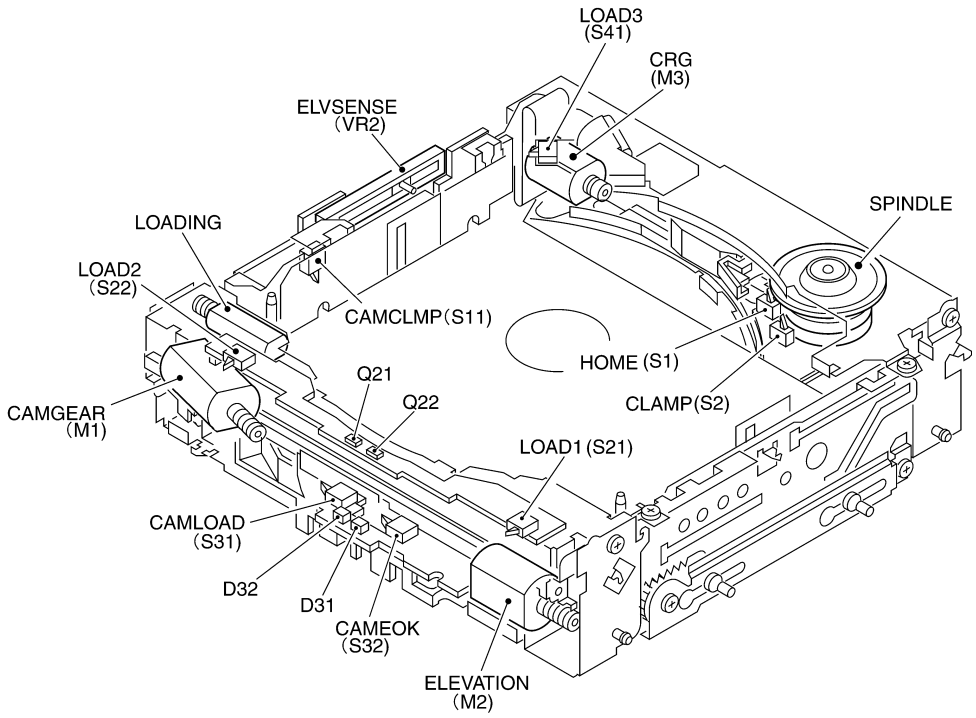
• After the disc is clamped, the mechanism stops.

If the CD source is selected, the spindle motor starts rotating to play the disc.

In other words, when the power is turned on for the first time, the mechanism will get into the quasi-clamping mode for the DISC #1 and stop.

2) Functions of motors, switches and sensors

Loading motor	Disc loading
	Disc ejection
Cam gear motor	Tray separation
	Carriage mechanism assy rotation
	Mechanical lock release
	Tray claws open/close (in the play mode)
Elevation motor	Shutter open/close
	Tray claws open/close (in the loading mode)
	Elevation
	Door open (option)
Carriage motor	Search
	Disc clamp
Spindle motor	Disc rotation



3) Loading

The mechanism has realized the disc detection by employing two switches and two phototransistors mounted on the PCB UNIT (LOAD), and one switch mounted on the PCB UNIT.

a. Switches LOAD1 and LOAD2 (S21, S22) (Signal: LOADSW1)

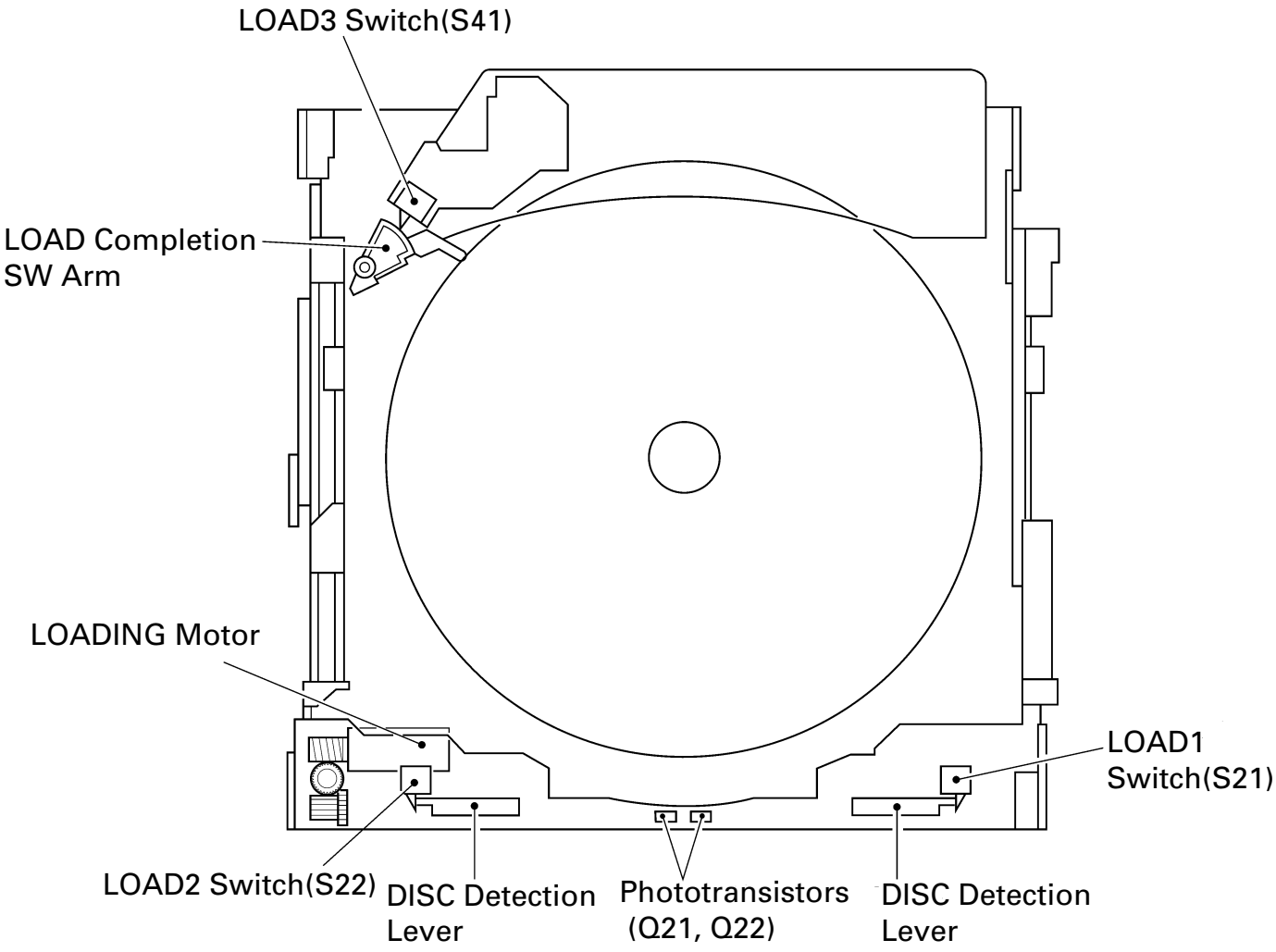
The switches mounted on the PCB UNIT (LOAD) turn on when the left and right DISC detection levers are moved by the loaded disc. These two switches LOAD1 and LOAD2 are connected in series to produce the same signal. Only when both of them turn on, the signal LOADSW1 is switched from high to low.

b. Phototransistors (Q21, Q22) (Signal: LOADPHT)

The phototransistors receive the beams emitted by the LEDs (D31 and D32) and sense if the beams are interrupted. These two phototransistors Q21 and Q22 are connected in series to make the same signal. Only when both of them are covered from the beams, the signal LOADPHT is switched from high to low.

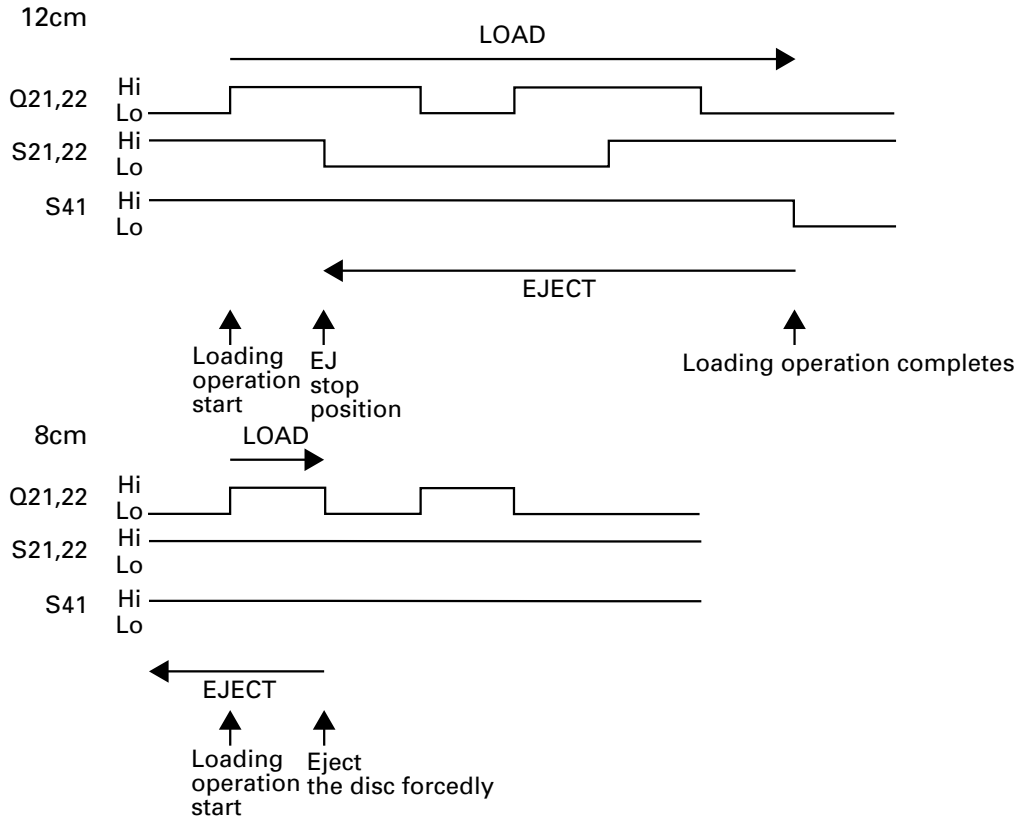
c. Switch LOAD3 (S41) (Signal: LOADSW2)

When the loaded disc reaches the stop position, the switch S41 (mounted on the PCB UNIT) is pushed by the LOAD completion SW arm on the stage. This switch detects discs in the initializing mode, and senses that the disc is inserted into the bottom.



<Loading operations>
When the disc covers the phototransistors and the LOADPHT signal is switched from high to low, the loading motor rotates in the disc draw-in direction. Then the mechanism continues drawing in the disc watching the signal from the phototransistors. When the signal is switched from low to high (or around the center hole of a 12cm disc), the mechanism confirms that the signal from the switches LOAD1 and LOAD2 has been switched from high to low. If the signal remains high, the mechanism will eject the disc forcedly. Only when the signal has been switched to low, the disc draw-in operation continues.
The disc pushes the LOAD completion SW arm, the LOAD3 switch turns on, and the LOADSW2 signal switches from high to low. Then the loading operation completes.

<Eject operations>
After the eject operation starts, the signal from the switches LOAD1 and LOAD2 changes from high to low, then returns to high. At this moment, the mechanism uses the brake function to stop the loading motor.

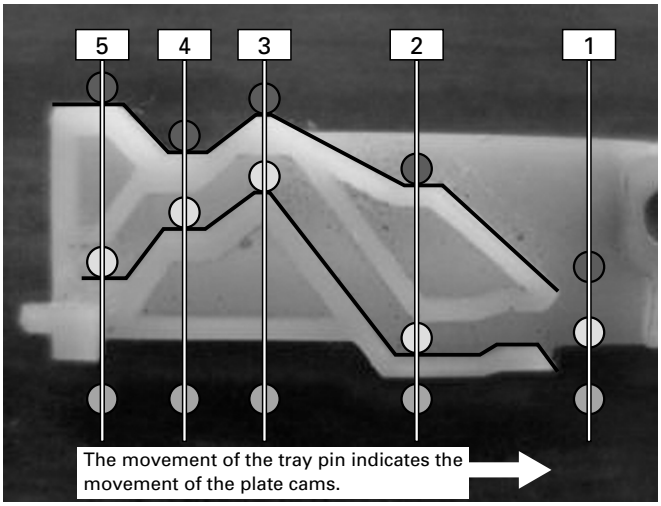


4) Cam gear motor
a. Tray clamp (tray separation) mechanism
There are the following five positions in the tray height (separation) states:
1. (Tray free) ELVok: The plate cams do not clamp the tray.
2. (Clamp) Load: The plate cams clamp the tray at the loading position
3. (Clamp) CRGIN: The plate cams clamp the tray at the position where the carriage moves in. (The upper dead point)
4. (Clamp) Disc clamp: The plate cams clamp the tray at the position where a loaded disc can be clamped (or a loaded disc on the tray stays on the support wheel).
5. (Clamp) Play: The plate cams clamp the tray at the disc play position (where there is some clearance under the disc).

<Tray separation driving principles> for real operations
The right and left plate cams with cam grooves synchronize the back and forth movement to change the height of the tray.One plate cam has two grooves, one is in the front side, and the other is in the rear side. The front and rear grooves have the same shape except for the load portion.
These plate cams are fixed on the left and right sides of the stage chassis. To minimize the height of the plate cams, the cam grooves in the stage are used. A sophisticated combination of a plate cam groove and a stage groove realizes the tray's movement in the up and down direction.

<Tray separation driving principles> for driving power
The driving power comes from the cam gear motor. The torque decelerated by the gears is transferred to the cam gear. The cam gear has four grooves. One of them is to drive the tray clamper lever. In accordance with this cam groove, the tray clamper lever moves back and forth. There are two long grooves at the tray clamper lever's ends. The plate cam's shafts are engaged with these grooves. Therefore, The tray clamp lever's movement in the back and forth direction is transferred to the plate cams by these grooves and the shafts.

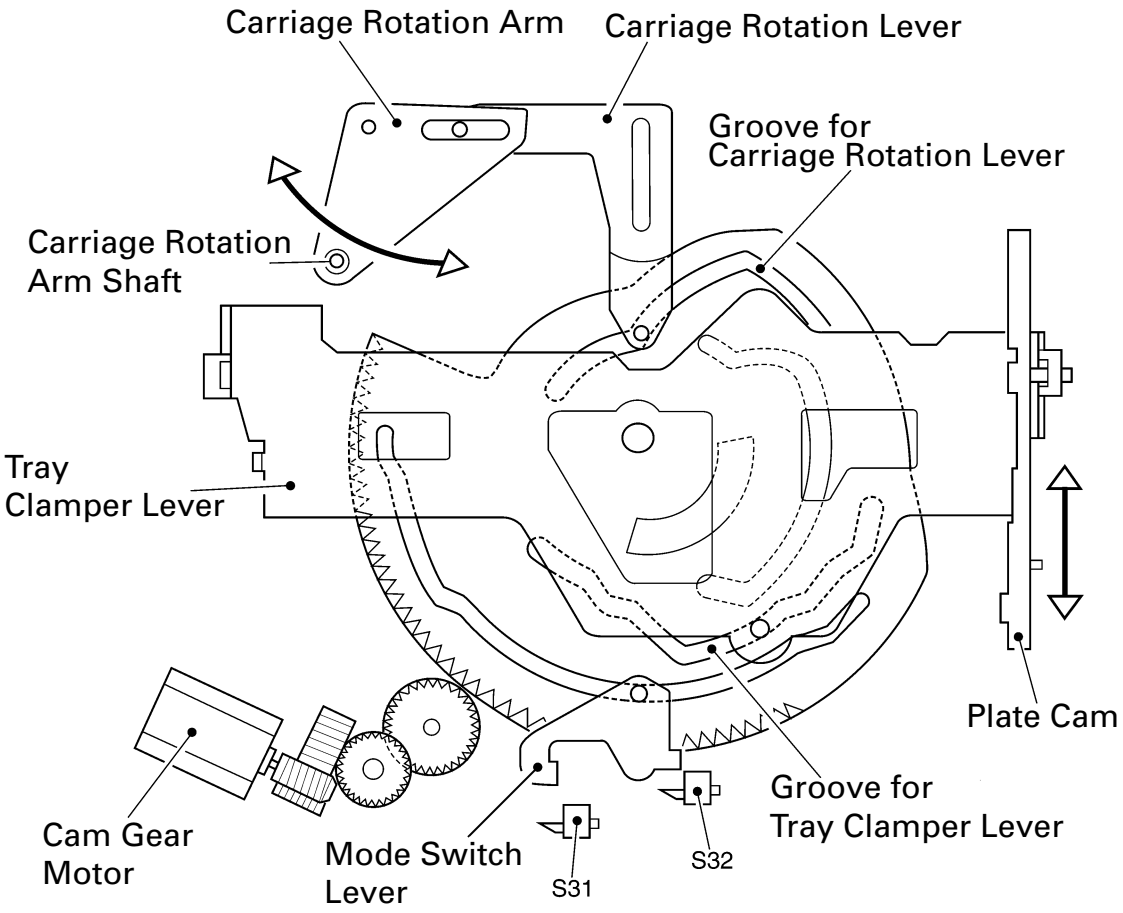
The position of the tray pin above the plate cam changes as shown below:



:The pin of the tray right above the plate cam:
It moves up and down together with the plate cam.

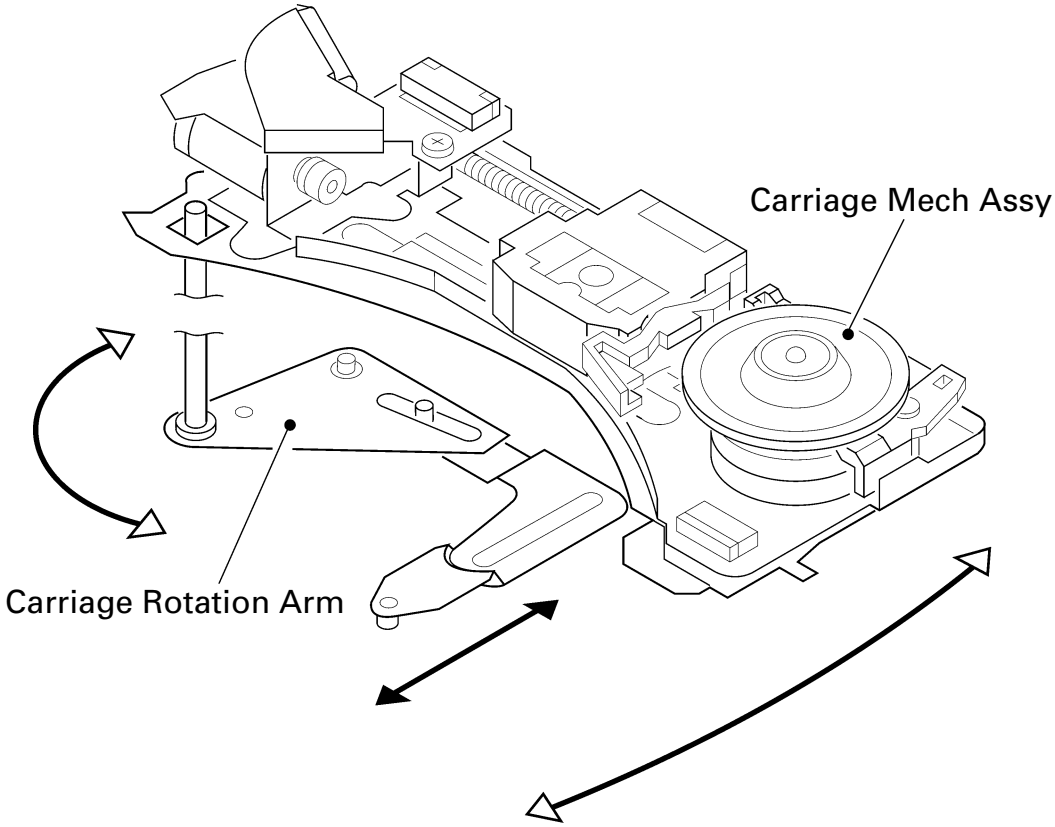
:The pin of the target tray:
It moves up and down together with the plate cam.

:For the pin of the tray right under the plate cam:
The above figure is just for reference.
The plate cam moves up and down for itself.



b. Carriage mech assy rotation mechanism

The carriage mech assy rotation mechanism is to move the carriage mech assy into the disc area for disc reproduction. The driving power from the cam gear is transferred to the carriage rotation lever (as sliding movement), then to the carriage rotation arm (as rotation).



5) Elevation motor

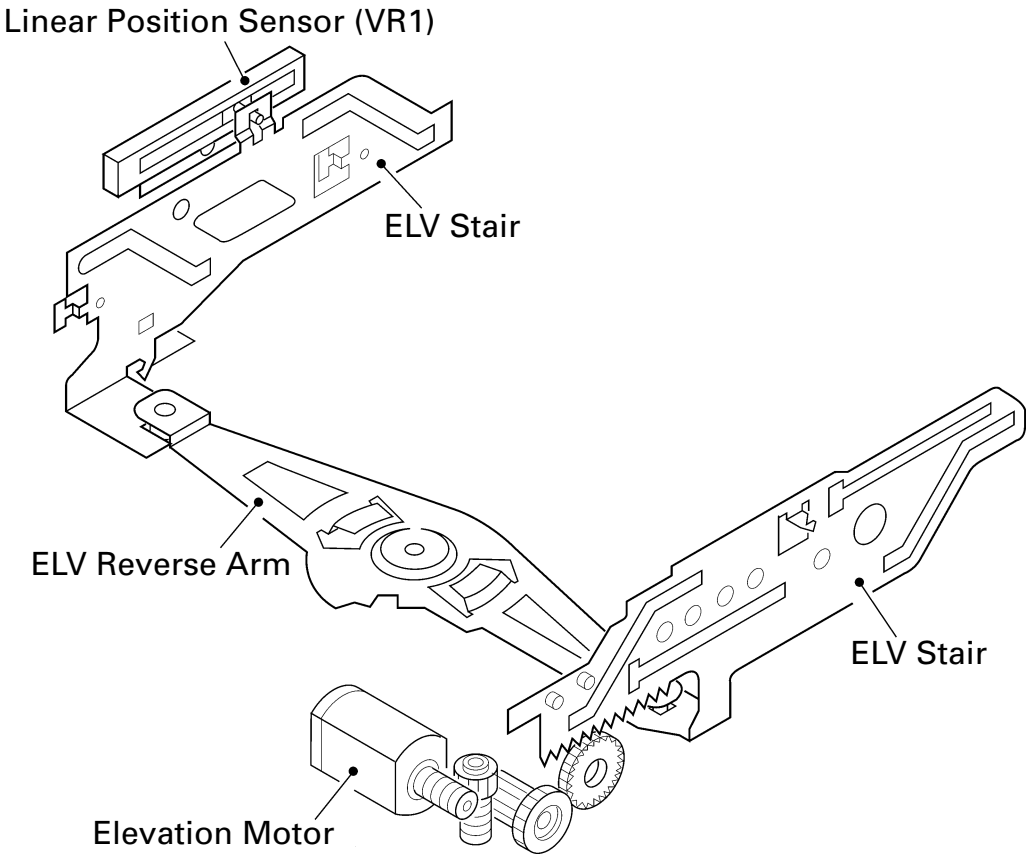
The elevation motor is used for the following two operations:

1. Elevation up and down
2. Shutter open and close (to move roller and disc guide, and to open or close the tray claws)

a. The elevation motor rotation slides the ELV stair slides via the gears.

b. The ELV reverse arm (located on the mechanism bottom side) synchronizes the left and right ELV stairs.

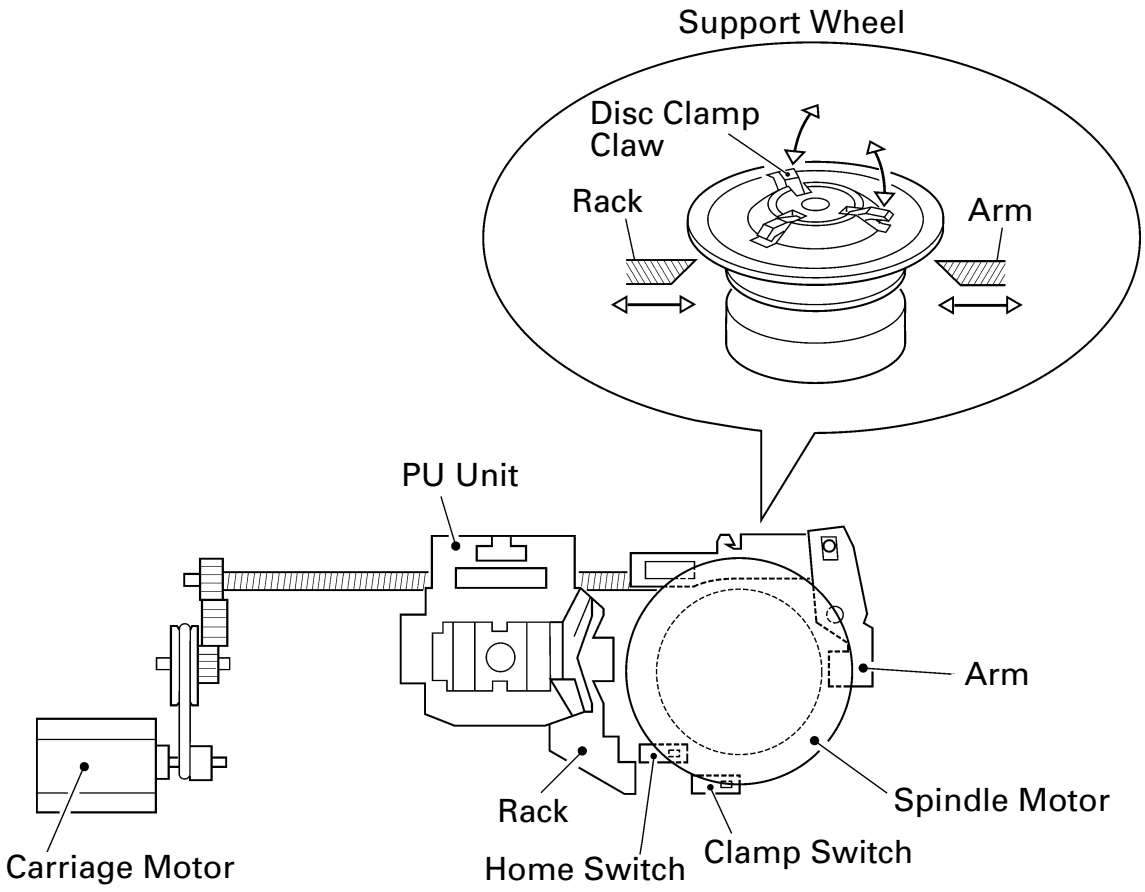
c. The linear position sensor (VR1) detects the height of the elevation.



6) Carriage motor

The carriage motor torque decelerated by the first belt is transferred via some gears. The last gear is engaged with the gear inserted into the feed screw. The feed screw is engaged with the rack of the PU unit, which moves the PU unit at last.

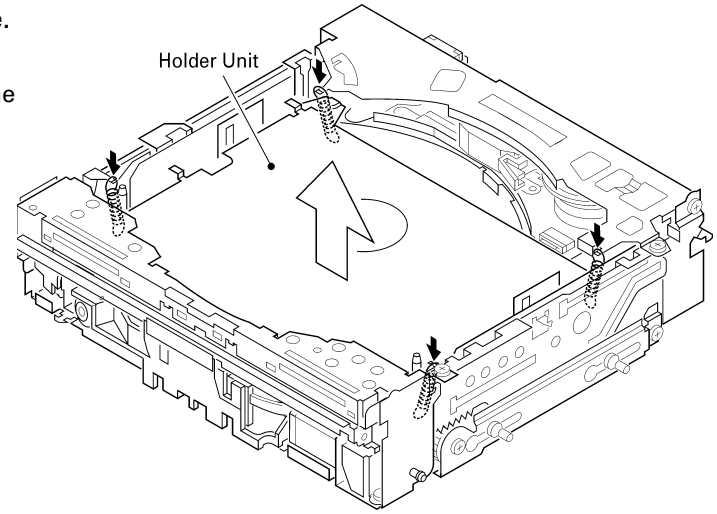
When the PU unit moves to inner tracks than the home position, the disc clamp claws start to close. When the claws are open, the plate of the spindle motor support wheel is pressing the claws to hold them in the open position. When the PU rack and the arm move to close the claws, the plate will be lowered and the claws will be set inside the support wheel. This is the disc clamp claw close mode.


Support Wheel
Disc Clamp Claw
Rack
Arm
PU Unit
Arm
Spindle Motor
Rack
Clamp Switch
Home Switch
Carriage Motor

3. DISASSEMBLY

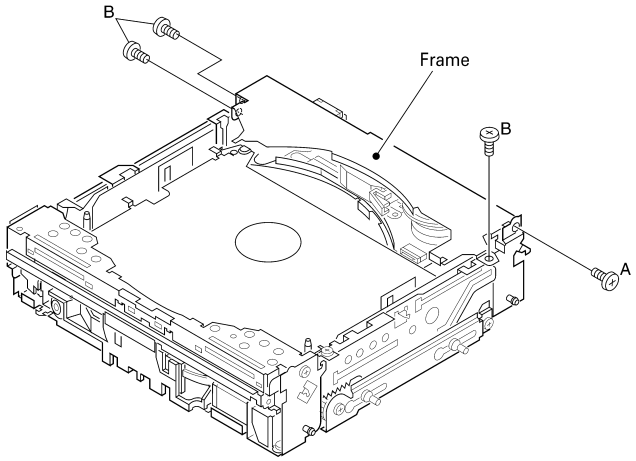
● Removing the Holder Unit

1. Set the whole mechanism to the loading mode.
2. Unhook the four springs of the Holder Unit and temporarily hook them at the frames as shown in the right figure.
3. Lift up the Holder Unit straight and remove it.

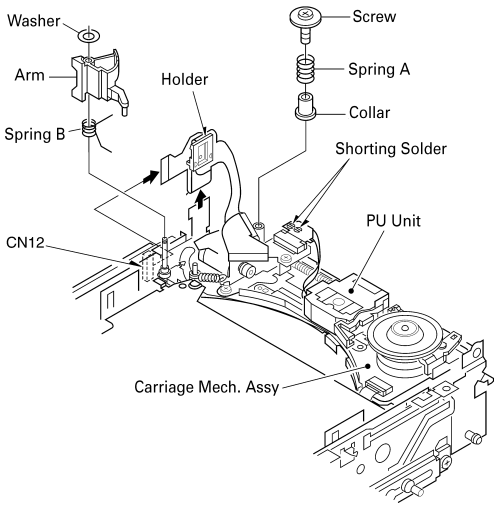


● Removing the PU Unit(PX1)

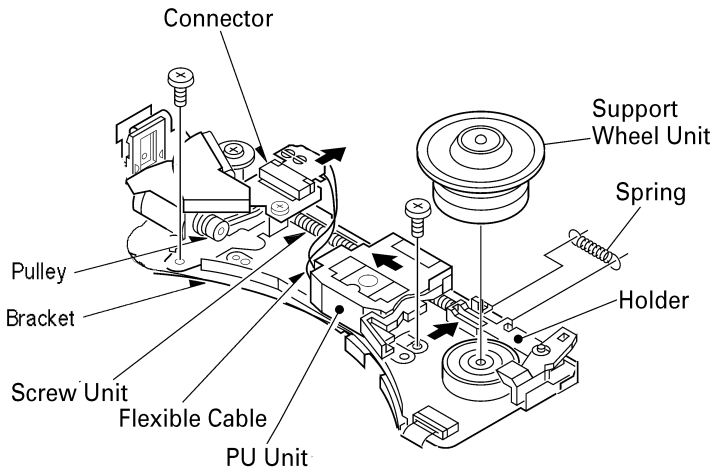
1. Set the mechanism to the shipment mode.
2. Remove the two screws A and two screws B.
3. Remove the Frame.



4. Apply shorting solder to the PU flexible cable before disconnecting it from the connector CN12.
5. Disconnect the flexible cable from the connector CN12, and remove the flexible cable Holder.
6. Remove the washer and Arm. (Be careful not to lose the spring B.)
7. Remove the screw, spring A, and Collar.
8. Remove the Carriage Mech. Assy.

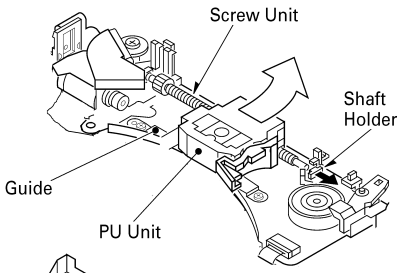


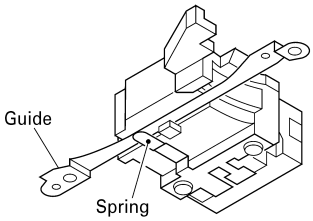
9. Apply shorting solder to the PU flexible cable before disconnecting it from the Connector.
10. Disconnect the PU flexible cable from the Connector.
11. Move the PU Unit to the left side slightly by turning the Gear.
12. Pull out the spindle motor Support Wheel Unit upwards to remove it.
13. Remove the Spring.
14. Slide the holder to make it easier to remove the Screw Unit.



15. While pressing the shaft holder in the direction shown by the black arrow in the right figure, remove the PU Unit together with the Screw Unit.

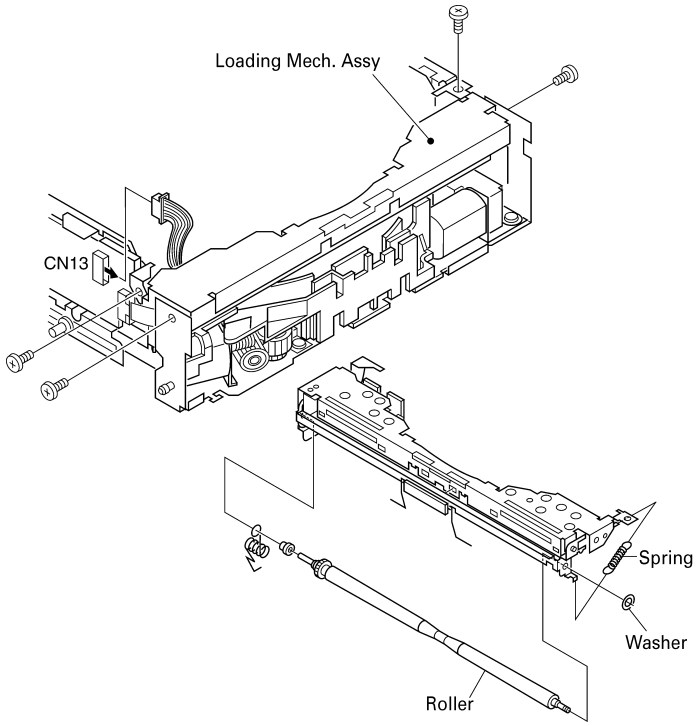
Note:
To assemble the PU Unit, insert the Spring on the PU rear between the PU Unit and the Guide first.



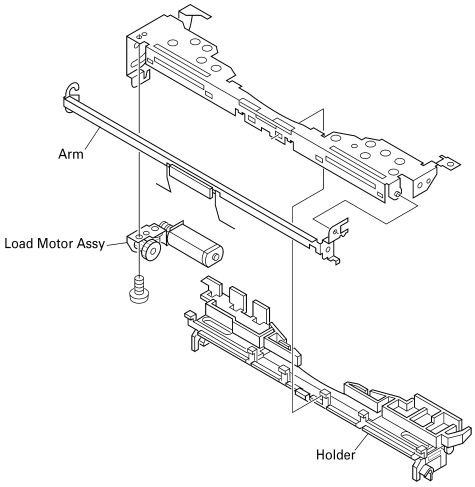


● Removing the Load Motor Assy

1. Remove the four screws.
2. Disconnect the Load Motor connector from the connector CN13.
3. Remove the Loading Mech. Assy.
4. Remove the washer and spring.
5. Remove the Roller.



6. Remove the Arm and Holder.
7. Remove the screw and Load Motor Assy.



● Removing the Cam Motor Assy and ELV Motor Assy

1. Remove the connector from the Connector CN14.
2. Remove the Cover.
3. Remove the screw A and the Cam Motor Assy.
4. Remove the screw B and the ELV Motor Assy.